CROATIAN FINANCIAL SERVICES SUPERVISORY AGENCY

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HANFA

CONTENTS

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1 INTRODUCTION

Along with the Croatian National Bank and the Ministry of Finance, the Croatian Financial Services Supervisory Agency (hereinafter: Hanfa) is responsible for the stability of the financial system in the Republic of Croatia; therefore, promoting and preserving financial stability, in accordance with the Act on the Croatian Financial Services Supervisory Agency, is one of the basic goals of its work. A **stable financial system** implies the smooth functioning of all its segments (financial institutions, markets, services and infrastructure) in the process of resource allocation, risk assessment and management, and carrying out payments, as well as its resistance to sudden shocks.

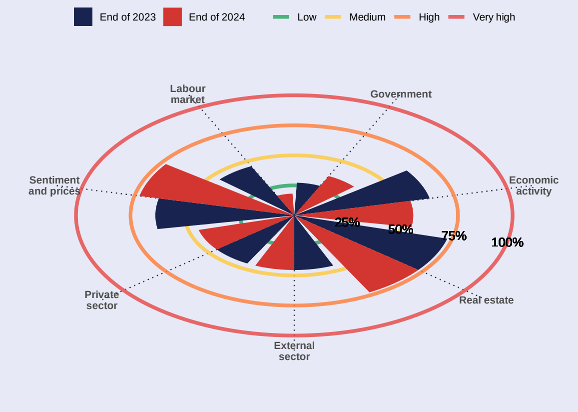
Financial stability can be disrupted by the processes that arise and develop within the system, creating vulnerabilities that may materialise in the event of certain shocks in the form of disturbed liquidity and capital positions of financial institutions, disabling the smooth functioning of a part or of the entire financial system. Such shocks can be external, i.e. transferred from the international environment, or idiosyncratic, i.e. generated by domestic macroeconomic and financial developments, economic policy or changes in the institutional environment. Therefore, any risk to which the system is exposed and which can have adverse effects on the functioning of the entire financial system or any of its parts, thus causing a serious negative impact on the real economy, represents a **systemic risk**.

Over the past few years, global progress has been made as regards the understanding and consequently identification, evaluation and monitoring of systemic risks of the financial sector. However, in order to prevent the identified risks in time, and to mitigate the effect of their materialisation, an appropriate set of instruments and tools, i.e. policies aimed at ensuring the stability of the system as a whole, called **macroprudential policies** had to be developed. Therefore, in the European Union (EU), bodies with macroprudential powers and mandates have been established at the national and international level after the global financial crisis, and frameworks for international cooperation have been developed along with macroprudential tools. Although the initial phase of macroprudential capacity development was primarily focused on the banking sector, the growing share and importance of the non-banking part of the financial system create structural changes and require further development of the macroprudential framework, as well as the expansion to the financial services sector in order to adequately address systemic risk and prevent regulatory arbitrage. In addition, financial integration is constantly intensifying, creating the need for a holistic approach, which views the system as an inseparable whole and which primarily involves monitoring and addressing vulnerabilities in a cross-sectoral, but also cross-border context.

Hanfa continuously supervises and monitors systemic risk exposure of the financial services sector and regularly publishes the conclusions of its process of identifying, analysing and assessing risk exposure in the publication **Macroprudential Risk Scanner.** While this publication focuses on horizontal exposures of the entire financial services sector to particular risks, such as market, interest rate or currency risk, the annual publication **Financial Stability** offers a detailed analysis of vertical developments and risks in individual segments of the financial services sector, that is, the industries of insurance, leasing, factoring, investment and pension funds, as well as financial markets, and provides an assessment of their exposure (and contribution) to systemic risks. Analysis and assessment of risks in each of these segments are viewed in the context of international and domestic macroeconomic, monetary and financial developments. The publication also contains an assessment of the overall exposure of the entire financial services sector to systemic risks, both those that are of short-term, i.e. cyclical nature, as well as long-term, structural risks. The publication also provides the results of stress testing of the financial services sector under highly unlikely but plausible macroeconomic and financial shocks. In this way, the publication Financial Stability provides a comprehensive and systematic insight into the risks to which the domestic financial services sector is exposed, analyses their nature and character in order to take timely and adequate macroprudential actions to prevent the materialisation of such risks and deterioration of the stability of the domestic financial system and to strengthen the system's resistance to shocks.

2 MACROECONOMIC ENVIRONMENT

Figure 2.1 Increases in the general price level and real estate prices are the major risk in the macroeconomic environment
Systemic risk score for the macroeconomic environment, in %



Source: Hanfa

In 2024, the domestic economy was marked by stable economic growth and a slowdown in inflation. These developments had a favourable impact on fiscal indicators, reducing the budget deficit and public debt and creating conditions for stable financing of government bonds. The acceleration in the inflation rate towards the end of the year exacerbated macroeconomic uncertainties, which in early 2025 were further fuelled by growing geopolitical instability, with a potential adverse impact on economic growth, public expenditures and inflation trends. The shift in the US trade policy is the main source of global instability, which could indirectly affect the Croatian economy as well. Domestic economic vulnerabilities, such as rising real estate prices, labour shortages and dependence on foreign demand for services, further exacerbate financial stability risks, which edged up in 2024.

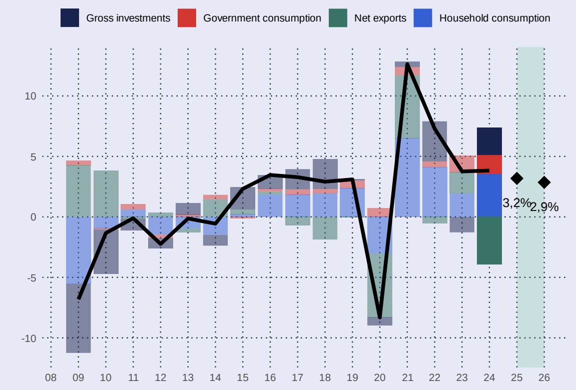
Continued growth in an uncertain environment

In 2024, the domestic economy recorded relatively strong growth of 3.9%. Driven by low unemployment and significant wage growth, personal consumption was the main determinant of economic growth, increasing by 5.6% in 2024. The growth was due to both a higher level of prices and a larger volume of consumption, reflected in the rising number of receipts in the system of cash transaction fiscalisation. According to Tax Administration data, the number of receipts increased by 3.2% in 2024, while their amount rose by as much as 11.0%, reflecting the impact of price increases during the year (Figure 2.3). An important driver of economic growth in 2024 were gross investments, which grew by 9.9% on an annual basis, supported primarily by the growth of the services sector and the further expansion of construction activity[1] (Figure 2.3). On the other hand, the volume of industrial production decreased by 2.4% in 2024, reflecting challenging business conditions, not only for domestic industries, but also for their main trading partners in the euro area (Figure 2.4). Against the backdrop of subdued foreign demand and a simultaneous rise in imports, net foreign demand contributed negatively to economic growth in 2024 (Figure 2.2), given that the increase in imports (5.3%)

[1] The volume of construction works in 2024 was 13.5% higher year-on-year, with the increased activity of the construction sector being reflected in the number of building permits, which increased by 2.2% in 2024.

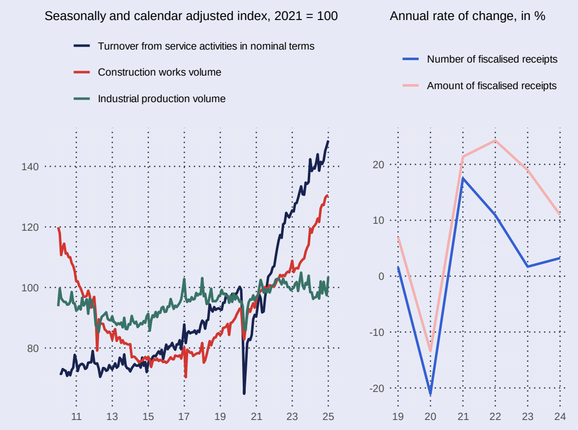
outpaced the exports of goods and services (0.9%).

Figure 2.2 Personal consumption and gross investments were the main drivers of economic growth in 2024
Real GDP growth rate (annual rate of change, in %) and contributions to growth (percentage points)



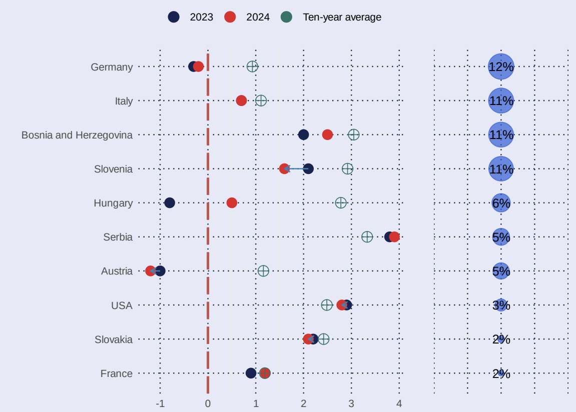
Note: The shaded area, dots and numbers show real GDP growth projections of the European Commission.
Sources: Eurostat, European Commission (DG-ECFIN)

Figure 2.3 Construction activity expanded, industrial production stagnated and the number of fiscalised receipts grew in 2024



Sources: CBS and Tax Administration

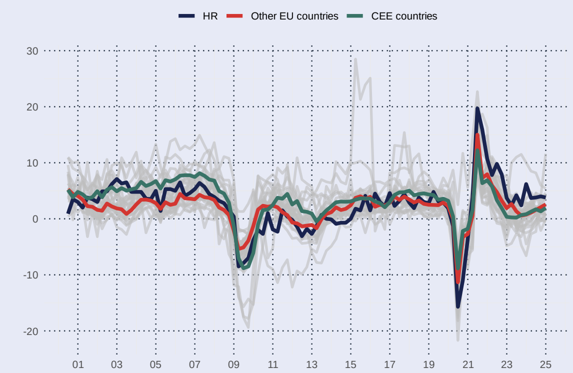
Figure 2.4 Croatia's major trading partners recorded weaker results last year
Annual GDP growth rates, in % (left) and share in total exports, in % (right)



Sources: CBS and Eurostat

The growth of the domestic economy is projected by the European Commission to continue its upward trend in 2025, albeit at slightly lower rates [2], driven primarily by personal consumption and gross investments. The main short-term risks to domestic economic growth are driven by global factors, which include a possible escalation of geopolitical tensions, a new energy crisis, the tightening of US trade policy and a weak growth of the European economy, in particular of Croatia's major trading partners. A decline in exports of goods and services might slow down economic activity in Croatia and, should negative risks materialise, affect the operations of the financial services sector.

Figure 2.5 Despite the slowdown, Croatia recorded higher economic growth than most EU countries in 2024
Annual rate of change in real GDP, in %



Note: The grey highlighted lines show indicator movements for individual EU countries. CEE countries are: BG, CZ, EE, HU, LV, LT, PL, RO, SK and SI.
Source: Eurostat

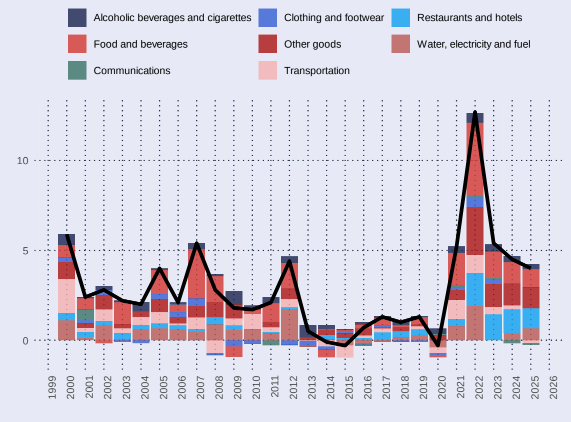
Inflation remains a source of risk

While inflation continued to decelerate in 2024, it stayed at relatively high levels and is still a significant source of risk in the macroeconomic environment. The first part of 2024 was marked by a continued decline in inflation that started in mid-2023. In the last quarter of 2024, the trend reversed, reflecting inflationary pressures from energy and services. As a

[2] According to the **European Commission's spring projection** for Croatia, GDP is expected to increase by 3.2% in 2025.

result, at the end of December 2024, Croatia's annual inflation rate[3] was almost twice as high as the euro area average, standing at 4.5%, with only Hungary and Romania recording higher inflation (of 4.8% and 5.5%, respectively). The increase in prices in 2024 was broadly based, with almost all components of the consumer basket contributing to the growth. However, as in the previous year, the key generators were the prices of services (restaurants and hotels category) and the prices of other goods and food (Figure 2.6).

Figure 2.6 In 2024 inflation remained much higher than the target
Contributions of individual goods categories to the total inflation rate, in percentage points



Note: Other goods include the following categories: furniture, education, health and recreation and culture.
Source: Eurostat

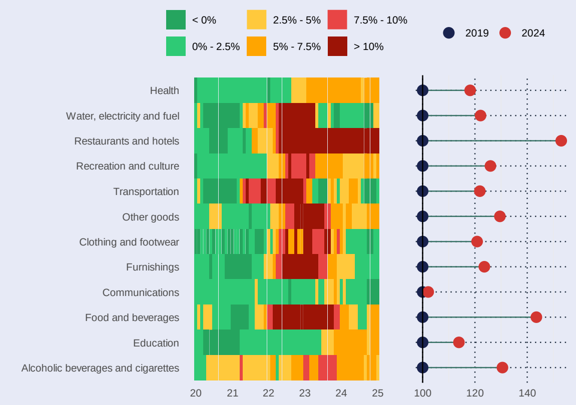
In contrast to the first inflation wave in 2022, when inflation was mainly driven by external factors (imported inflation), the continued rise in price indicators above the medium-term targets in the second half of 2024 was largely a reflection of domestic specificities. More precisely, there were no severe systemic shocks in 2024, so energy prices followed the usual fluctuations for most of the year[4]. There were also no disruptions in the global food market in 2024[5]. The pick-up in inflation in 2024 stemmed from robust domestic demand, supported by a tight labour market, which drives wage growth and thus amplifies inflationary pressures. Services prices increased, supported by solid results in tourism, despite changes in the structure of guests and their consumption habits[6]. Volume indicators of the number of nights stayed and tourist arrivals[7], the number of fiscalised receipts in tourism-related activities and transport indicators[8] grew in 2024, supporting the mentioned rise in services prices. Revenues from foreign tourists slowed down markedly in 2024[9], reflecting a decline in purchasing power, but also reduced price competitiveness of tourist services when compared to peer Mediterranean countries.

The dynamics of the general price level was also influenced by profit margins of non-financial corporations. According to the latest available data from Fina, the

[3] Measured by the harmonised index of consumer prices (HICP).
[4] In 2024, average crude oil prices were 2.4% lower than in the previous year, while average natural gas prices decreased by 15.5% over the same period.
[5] The Food Price Index, which is a measure of the changes in prices of a basket of food commodities, also fell by 2% from 2023.
[6] The average length of stay was reduced in 2024 (to 4.6 days), with a noticeable change if the tourists' home countries are observed: the decrease in nights stayed by German tourists was neutralised by tourists from Central European countries (Slovenia, Hungary, Poland). Also, according to HTZ data, the number of arrivals and nights stayed by domestic tourists grew much faster (by 7.8% and 2.4%, respectively) than those by foreign tourists (2.8% and 0.7%, respectively).
[7] According to CBS data, in 2024 tourist arrivals and nights stayed increased by 3.9% and 1.4%, respectively.
[8] In 2024, the CM-managed motorways saw an 8% increase in traffic and a 13% increase in toll amount charged. CBS data show that 0.7% more ships reached Croatia's seaports from January to December 2024 than in 2023, while 36.2 million passengers were transported, which is an increase of 3.4% on an annual basis. The number of air passengers also grew, with 16.2% more passengers in 2024 than in 2023.
[9] According to CNB data, revenues from foreign tourists stood at EUR 15.0bn in 2024, up by 2.7% from the year before.

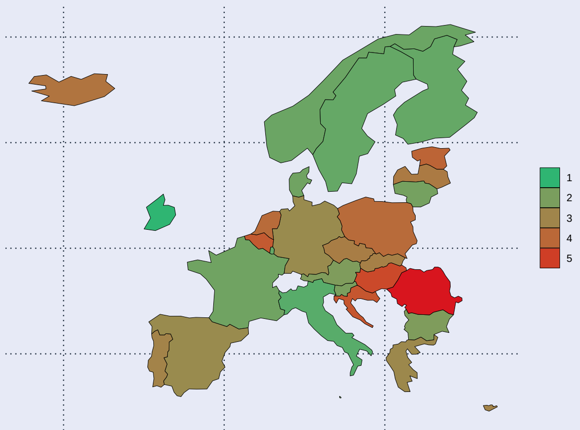
aggregate EBITDA margin of non-financial corporations increased by 1.1 pp in 2023, to 11.9%, while the indicators of the profitability of total assets and own funds also increased in the same period and stood at 4.2% and 10.2% at end-2023, respectively. Such developments have had a positive impact on market valuations of corporations, but at the same time have made it difficult to bring inflation down to target levels.

Figure 2.7 Services continued to record the highest price increase
Annual rates of change (left) and the five-year change (right) of the main categories of the consumer price index, in %



Source: Eurostat

Figure 2.8 At end-2024 inflation in Croatia was among the highest in the EU
Annual rate of change in 2024, in %



Note: The inflation rate is measured by the harmonised index of consumer prices.
Source: Eurostat

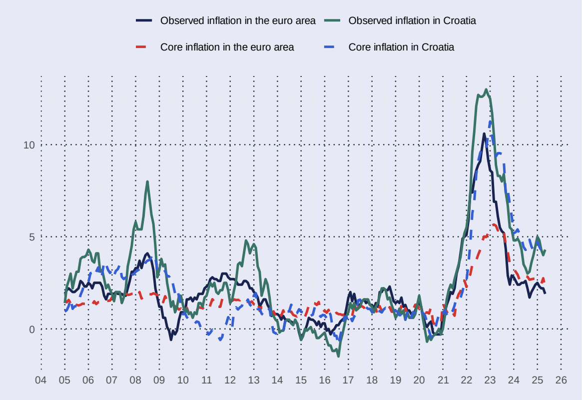
Over the five-year period from the end of 2019 to the end of 2024, the price level in Croatia increased by as much as 30.1% (Figure 2.7), while prices in the euro area increased by 20.5%. The most prominent cumulative growth in that period in Croatia was recorded in restaurants and hotels (53.0%) and food (43.5%) categories. After years of price growth, even a small growth in relative terms can be a major burden for consumers, especially for the most vulnerable groups whose basket structure differs from consumers with income at the other end of the distribution. According to some economic surveys[10], consumers from lower income groups tend to face higher inflation rates than those on an aggregate level, because they spend a larger part of their income on goods and services that experience above-average price growth more frequently. Even though the previous period saw the introduction of price caps[11], which can partly alleviate inflation pressures and help the most vulnerable households, it is not likely that they can stabilise inflation more permanently and bring it down to the target level. The need for further efforts to contain inflation is also underpinned by core inflation indicators that diverged from the European average[12] in 2024 (Figure 2.9).

Inflation continued to rise at the beginning of 2025 and remained elevated at the end of the first quarter (4.3%), with the largest contribution again coming from services and food prices (Figure 2.5).

[10] More information in **Kolika je inflacija bogatima, a kolika siromašnima u Hrvatskoj?**
[11] In order to prevent the negative effects of changes in individual prices, reduce inflation and eliminate the harmful consequences of market disturbances, at end-January the Government of the Republic of Croatia adopted the **Decision on direct measures to control prices of certain products and certain categories of products in retail trade**, introducing price caps for some seventy products from the consumer basket.
[12] At the end of 2024, the difference between core inflation in Croatia and that in the euro area was a high 1.9 pp.

The slowdown in inflation is further hampered by expansionary monetary and fiscal policies and tightened geopolitical and trade relations between the world's leading economies. Due to these risks, the inflationary and monetary environment has remained uncertain, which limits the room for a further slowdown in price growth. As a result, stabilising inflation and moving towards the medium-term target of 2% in 2025 will be difficult to achieve so that the **European Commission's current projections** of a 3.4% inflation in Croatia and a 2.1% inflation in the euro area in 2025 are exposed to significant risks.

Figure 2.9 Inflation indicators in Croatia much higher than European inflation indicators
Annual rate of change, in %

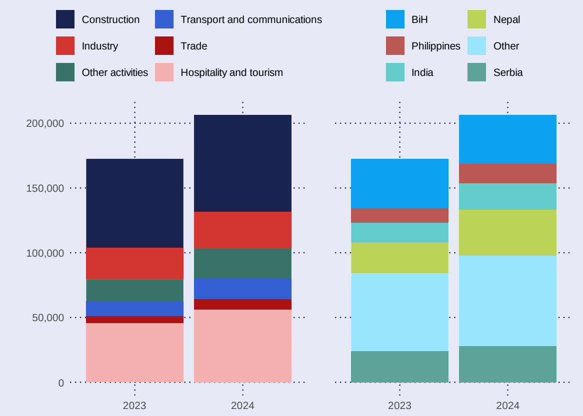


Note: The inflation rate is measured by the harmonised index of consumer prices.
Source: Eurostat

Labour market remains tight

The labour market remained tight in 2024, increasing upward pressures on prices. The accelerated inflows of foreign workers only partially addressed structural deficiencies such as labour shortages and the relatively low activity rate, keeping the unemployment rate at a historically low level of 5.0% at the end of 2024. Permits issued to foreign workers in Croatia exceeded 200 thousand in 2024 (an annual growth of 20%, Figure 2.10)[13]. The largest number of foreign workers still work in construction and hospitality sectors; in addition to the usual share of workers from neighbouring countries, there is a growing number of those coming from Asian countries. Despite the increased immigration of foreign workers, the pressure on the domestic labour market did not decrease significantly, as labour demand remained high in 2024. Thus, the number of job advertisements in 2024 was the second highest since 2005, when the index was constructed, following the highest value reached in the record year 2023. CES data on the number of job vacancies also point to a persistent labour shortage, which is most pronounced in labour-intensive construction and hospitality service activities (Figure 2.11).

Figure 2.10 Increase in the number of residence permits for foreign workers in Croatia
Number of permits by activity and country



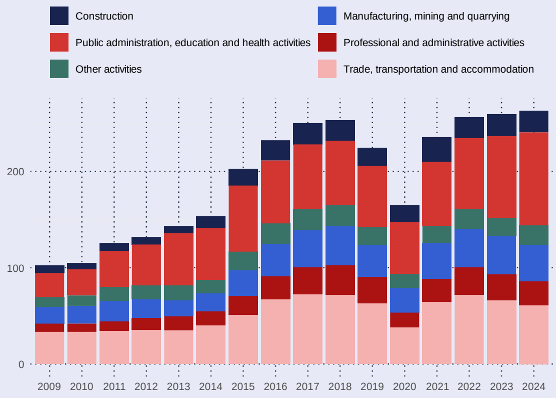
Source: Ministry of the Interior

Against this background, unemployment continued to trend downwards. At the end of December 2024, the unemployment rate stood at 5.0%, down by 1.4 pp from the levels seen in 2023 (Figure 2.12). On an annual basis, the number of employed persons increased

[13] According to the data of the Ministry of the Interior available at the following **link**.

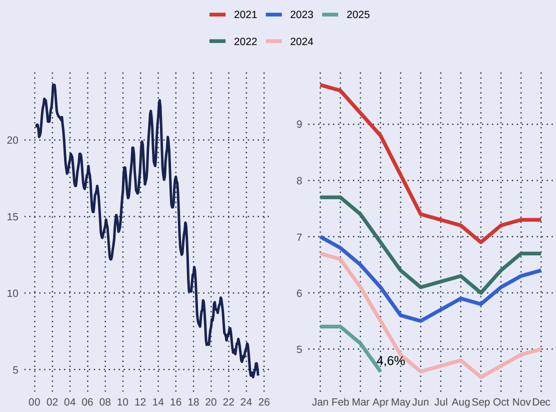
by 3.5% with a modest increase in the activity rate [14], which, despite the improvement, remains among the lowest in Europe.

Figure 2.11 Large inflows of foreign workers did not lead to a decrease in the number of job vacancies
Number of job vacancies by NCA 2007, in thousands



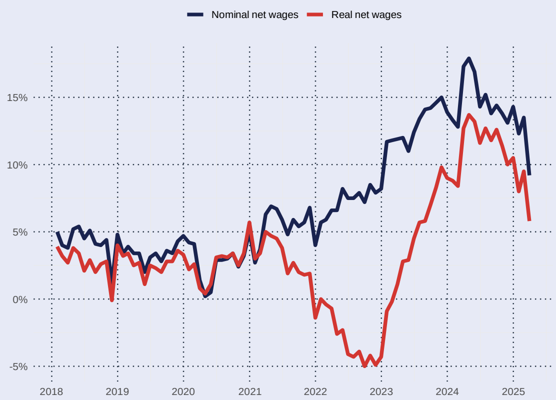
Source: CES

Figure 2.12 Unemployment rate at historical lows
Registered unemployment rate, in %



Source: CBS

Figure 2.13 Wage growth dynamics slowed down in the last quarter of 2024
Annual rates of change in nominal and real net wages, in %



Source: CBS

Against the background of low unemployment and high demand for labour, labour markets were marked by pronounced wage growth in 2024 – in nominal terms, average net wages grew by 14.3%, while in real terms they increased by 10.5% (Figure 2.13). Wage growth was influenced by tax changes, such as an increase in the personal deduction, as well as by the reform of the public sector wage system [15]. In the forthcoming period, labour supply and demand are not expected to be more closely matched, which could lead to a further increase in wages. As the growth in wages reinforces price growth and vice versa, containment of inflationary pressures will be difficult in such circumstances.

Real estate market is growing despite pressures

The increase in private sector indebtedness in 2024 did not significantly increase vulnerabilities, and credit risk remained at historically low levels. The debt of households and non-financial corporations increased by 10.4% in 2024. Non-financial corporations maintained solid business performance in 2024 (Figure 2.15). The number of insolvent firms declined further and the non-performing loans ratio remained at historically low levels (Figure 2.14). Taking into account the moderate indebtedness

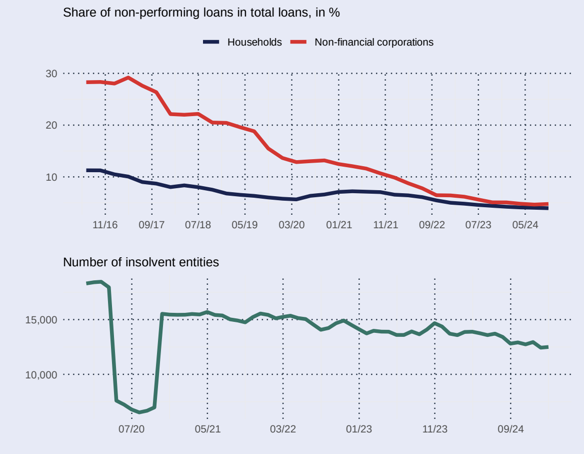
[14] According to Eurostat, the activity rate for Croatia was 53.9% at the end of 2024, which is 1.2 pp higher than at the end of 2023.

[15] At the end of 2024, the average monthly net wage in public services (activities O, P and Q) was 16.1% higher on an annual basis.

of the real sector[16] and the relatively favourable interest rate structure of debt, which is dominated by fixed or partly fixed interest rates, a significant materialisation of credit risk in the non-financial sector is unlikely in the forthcoming period. Such developments have positively impacted credit risk on the balance sheets of leasing companies, as the structure of their contracts is primarily linked to the operations of non-financial corporations (more information in Chapter **7 Leasing companies**).

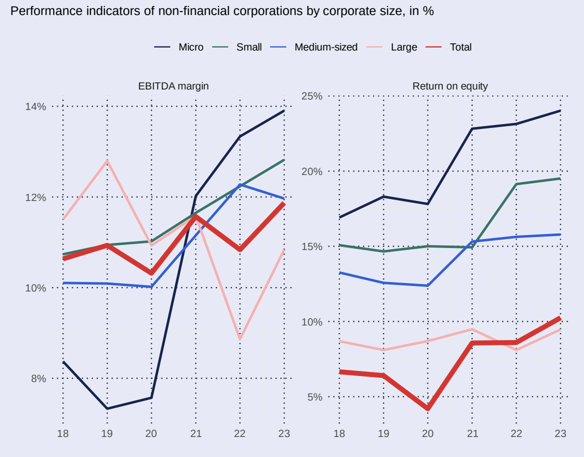
Wage growth and low unemployment further boosted household demand for loans, with newly-granted loans rising by 10.5% in 2024, dominated by general-purpose cash loans. As a result, the central bank announced **limits on consumer lending criteria**, effective as of July 2025, with the aim of mitigating accumulated risks to financial stability and strengthening the financial resilience of households. These measures should lead to a slight slowdown in household borrowing, particularly in the segment of general-purpose cash loans, which might indirectly reduce inflationary pressures associated with increased consumption. In addition, the measures are aimed at slowing down the growth of housing loans, which will only partly affect both the demand for real estate and prices, as a significant number of purchases are realised without credit financing.

Figure 2.14 Private sector credit risk remained at low levels



Sources: CNB and Fina

Figure 2.15 Stable performance indicators of the non-financial corporate sector



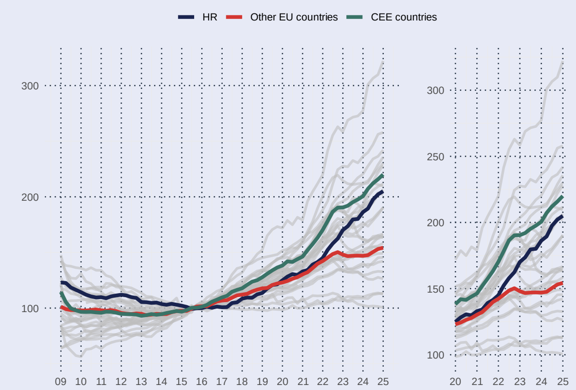
Source: Fina

Real estate market risks have remained one of the most prominent cyclical systemic vulnerabilities. Although there was a slight fall in real estate purchases in 2024[17], partly due to the discontinuation of the government's housing loan subsidy programme, real estate prices continued to rise at double-digit rates[18] (Figure 2.16), with only three EU countries recording faster growth[19]. More moderate foreign demand partly slowed down growth, but the robust labour market and lending supported domestic demand. Despite higher revenues, soaring real estate prices

[16] At the end of 2024, private sector debt stood at 87.2% of GDP, well below the average EU private sector debt (142.8%).
[17] In 2024, the number of purchases was slightly lower year-on-year (–2.9%).
[18] The average annual growth rate of the house price index was 10.4% in 2024.
[19] In 2024, property prices in Bulgaria increased by 16.5%, in Poland by 15.0% and in Hungary by 12.8%.

and the tightening of financing conditions deteriorate housing affordability. The stabilisation of real estate prices in a context of an exceptionally high demand is difficult to achieve without a corresponding increase in supply, which should also be impacted in the medium term by the upcoming **National Housing Policy Plan**[20] and the **property tax**[21] introduced in early 2025. Although the financial services sector is not significantly directly exposed to the real estate market[22], the systemic risks have wider implications for the entire economy, and indirectly for the stability of the financial system.

Figure 2.16 Prices in the real estate market continued to grow
House price index, 31 December 2015 = 100



Note: The grey highlighted lines show indicator movements for individual EU countries. CEE countries are: BG, CZ, EE, HU, LV, LT, PL, RO, SK and SI.
Source: Eurostat

Better fiscal indicators even with higher expenditure

Despite an expansionary fiscal policy, 2024 was marked by public debt reduction and credit rating improvement. The strong growth in economic activity and general government revenues mitigated the increase in expenditure and led to an improvement in debt indicators. Although public debt in absolute terms increased annually by 2.1% by the end of 2024, it stood at 57.6% of GDP in relative terms and for the first time since 2010 fell below the 60% threshold prescribed by the Maastricht criteria (Figure 2.17).

Favourable fiscal indicators and economic growth led to an improvement in Croatia's credit rating in 2024 (Figure 2.18). All three credit rating agencies have upgraded Croatia's rating: Standard & Poor's to A– with a positive outlook, Moody's to A3 with a stable outlook, and Fitch to A– with a stable outlook. Although the upgrades did not have a major impact on the market yields of government bonds, since investors have already incorporated such a scenario into their expectations (more information in Chapter **3 Financial markets**), the credit rating improvement has contributed to strengthening the stability of public debt and has indirectly reduced risks in the financial services sector, which invests most of its assets in Croatian government bonds.

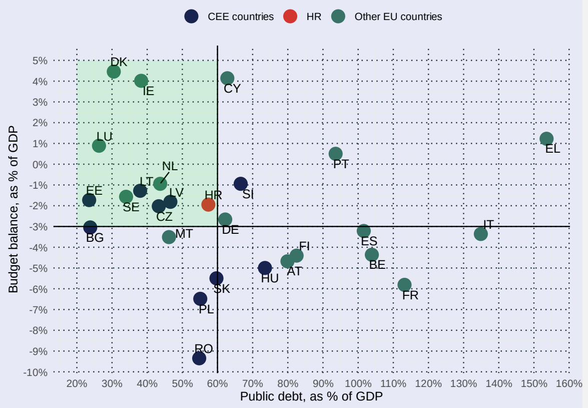
The structural characteristics of public debt did not change significantly in 2024. The introduction of the euro significantly reduced currency risk, so that at the end of 2023 less than 1% of debt was denominated in other currencies. The bulk of debt is still long-term (around 94%)

[20] The proposed National Plan puts forward three main objectives: affordable housing, sustainable housing and efficient space utilization for housing purposes; it is worth around EUR 2bn by 2030.
[21] The introduced property tax is partly a transformation of the existing tax on holiday homes. Tax rates can range from EUR 0.60 to EUR 8 per m^2, which is decided by local self-government units, and the tax is not payable on immovable property used for permanent housing. More details can be found at the following **link**.
[22] More information in Box 1 **Real estate investments: an alternative form of investment that significantly affects the stability of the financial services sector in Croatia?** in Financial Stability No 3.

and related to domestic sectors (around 70%). Public debt stability has been further enhanced by investor diversification. Namely, since the issuance of the first national bond almost two years ago, the household sector participated in the purchase of another national bond in July 2024 and seven T-bill issues[23] (more information in Chapter **3 Financial markets**).

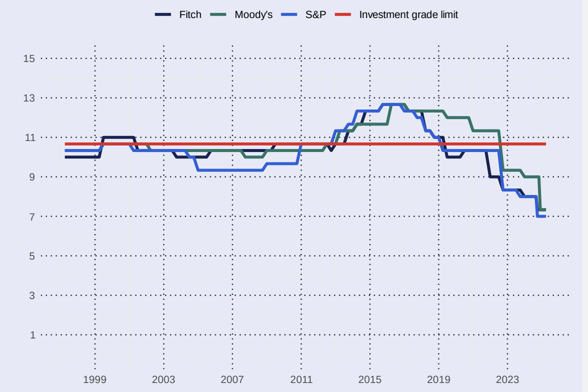
Total government expenditure exceeded revenues[24], bringing the deficit to 2.4% of GDP at the end of 2024. Thus, Croatia joined several EU countries that meet both Maastricht convergence criteria (Figure 2.17). According to the European Commission's projections, public debt is set to remain below 60% at end-2025, with a budget deficit of –2.1%. However, external shocks can quickly affect domestic economic indicators, which is the reason behind elevated short-term risks, despite relatively favourable fiscal developments.

Figure 2.17 Indicators of general government debt and finance situation are within the Maastricht criteria



Note: The highlighted lines indicate the levels of public debt and the budget balance defined under the Maastricht Treaty. The data refer to 31 December 2024.
Sources: European Commission (DG-ECFIN), Eurostat

Figure 2.18 Croatia's credit rating at the highest level ever
Numerical credit rating for Croatia



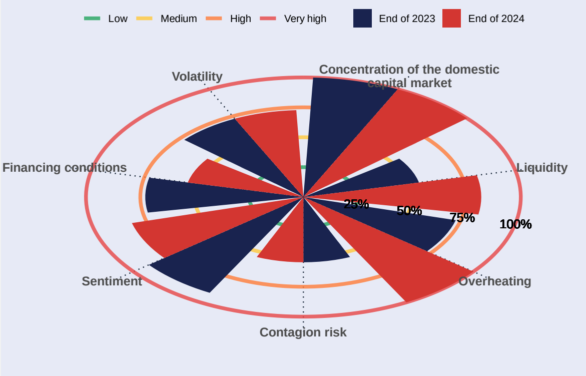
Note: Credit rating scores of international credit rating agencies are numerically quantified in a way that 1 is assigned to the best grade and 15 is assigned to the worst grade.
Source: Trading Economics

[23] T-bills were issued on 23 November 2023, 29 February 2024, 6 June 2024, 19 September 2024, 21 November 2024, 19 December 2024 and 27 February 2025.

[24] From January to November 2024, general government revenues and expenditure increased by 7.1% and 18.9% year-on-year, respectively.

3 FINANCIAL MARKETS

Figure 3.1 Risks of overheating and liquidity were the most prominent in financial markets in 2024
Risk score for financial markets



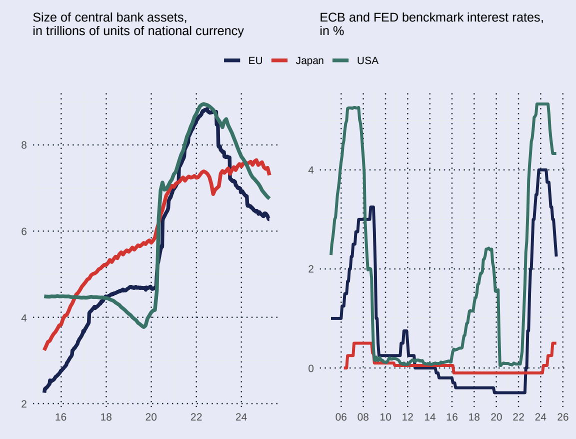
Source: Hanfa

In the course of 2024, financial markets mostly recorded positive developments despite occasional volatility and geopolitical tensions. Interest rate cuts, the avoidance of a recession and growing enthusiasm surrounding technology companies fuelled investor optimism. High market valuations point to subdued global risk premium, which increases the risk of market overheating. Liquidity in the domestic market deteriorated slightly as activity growth focused on the most liquid issues. The end of the year was marked by the US presidential elections, the outcome of which might accelerate the economic and monetary divergence between the USA and the EU in the coming period, further highlighting existing market vulnerabilities. Due to these cyclical developments, the financial services sector remains exposed to increased uncertainties and systemic risks.

Monetary environment and financing conditions

Leading central banks started to pursue an expansionary monetary policy in mid-2024, reducing benchmark interest rates and continuing the process of asset reduction [25] (Figure 3.2). Due to differences in economic trends and the expected implications of the economic policy of the new US administration, divergent monetary developments between the USA and the EU have become increasingly pronounced, which may generate new instabilities and raise financing costs.

Figure 3.2 Beginning of a downward interest rate cycle and gradual normalisation of central bank balance sheets



Sources: ECB, Eurostat, St. Louis FED, BIS

After reaching its peak in July 2023, FED's benchmark rates were kept in a range between 5.25% and 5.50% until mid-2024. Inflation deceleration to below 3% in July 2024 marked the beginning of a cycle of

[25] Under the assumption that balance sheets continue to normalise at a similar pace, the size of central bank assets in the USA and the EU at the end of 2025 is expected to stand at 25% and 40% of GDP, respectively, a significant decrease from the mid-2022 peak of 35% and 65%, respectively.

interest rate cuts[26], with interest rates ranging between 4.25% and 4.50% at the end of the year. In parallel, the gradual normalisation of the FED's balance sheet continued[27], owing to the end of reinvestment of maturing securities, which reduced the FED's impact on secondary bond markets, but also partly mitigated the effects of interest rate cuts on market financing costs.

In response to weaker economic growth and lower inflation in the EU, the ECB started lowering interest rates earlier; in the second half of 2024, interest rates were cut four times and were cumulatively reduced by 100 bp. This brought the interest rate on overnight deposits down to 3%; ECB leaders announced further reductions in 2025 with the aim of moving towards a neutral interest rate[28] of between 1.75% and 2.25%. The ECB also continued to reduce its balance sheet, so that its assets stood at EUR 6.3tn[29] at the end of 2024, with similar dynamics expected to continue in 2025.

Market expectations for interest rate cuts gradually strengthened in the course of 2024, especially in the USA, where in September interest rates were expected to decline by 250 bp over the next 12 months. Following the first interest rate cut of 50 bp in September, markets lowered their expectations by the end of 2024, so that interest rates were expected to decline by 60 bp in 2025. This resulted from statements made by the FED leaders about the strength of the US economy and mounting medium-term inflation expectations, as well as the uncertainty about the effects of the new US administration on inflationary developments (Figure 3.3). The situation is somewhat different in the EU, where sluggish economic growth and lower inflation have cut the expected reduction of interest rates by 100 bp in 2025, whereby the reference interest rate would be reduced to 2%, from the current 3%.

Divergence trends and rising uncertainty have exacerbated exchange rate fluctuations that may contribute to market volatility (Figure 3.4). The announcement of an expansionary fiscal and protectionist economic policy by the new US administration and the status of the dollar as a "safe haven" in an uncertain geopolitical environment especially contributed to the strengthening of the dollar at the end of the year[30]. Also, the sudden rise in interest rates in other major

[26] The FED cut benchmark interest rates by 50 bp in September and by 25 bp in both November and December.

[27] Since June 2024, the FED has reduced the monthly dynamics of balance sheet normalisation from USD 95tn to USD 60tn. Thus, the FED's total assets declined to USD 6.8tn at the end of 2024, but remained above the pre-pandemic levels, when they stood at USD 4.6tn.

[28] A neutral interest rate is a rate that has neither expansionary nor restrictive effects on the economy.

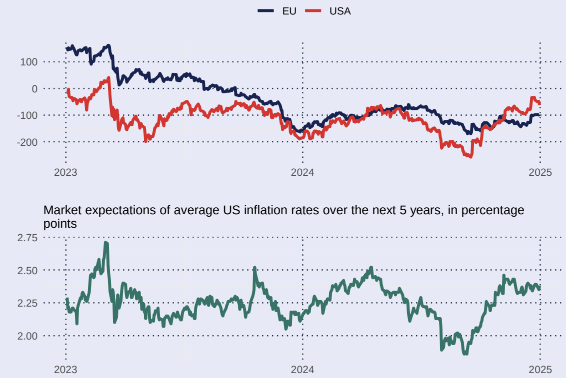
[29] This was also due to the discontinuation of reinvestments of the principal payments from maturing securities under the Asset Purchase Programme (APP) and the Pandemic Emergency Purchase Programme (PEPP) and to the repayments of amounts borrowed under the Targeted Longer-Term Refinancing Operations (TLTRO). In June 2023, the Governing Council of the ECB decided to discontinue reinvestments of principal payments. The maturing principal payments under the PEPP were reinvested until the end of June 2024 and a portion of principal payments was reinvested in the second half of the year, while the process was discontinued at end-2024. In addition, euro area banks repaid more than EUR 2tn of funds borrowed under TLTRO III between the end of 2022 and the end of 2024.

[30] At the end of 2024, the euro depreciated against the US dollar by 7% from the September 2024 peak.

economies, such as Japan[31] (Figure 3.2), have further exacerbated exchange rate uncertainty. The rise in the interest rate differential in favour of the USA and the consequent weakening of the euro could have a pro-inflationary effect on the European economy, given that the dollar is used as a unit of account in energy and other commodity markets, which increases the price of imports in the euro area and hampers the ECB's plans to reach a neutral level of interest rates.

Figure 3.3 Dynamic economy and the rhetoric of the new administration push up expectations for US interest rates and inflation in the future

Market expectations of interest rate changes over the next 12 months, in basis points



Note: The chart shows the difference between the one-year overnight money market rates (EU - €STR, USA - SOFR).
Sources: St. Louis FED, ECB, Bloomberg

Figure 3.4 Potential monetary policy divergence is a major factor in exchange rate fluctuations of global currencies

Nominal effective exchange rate of the euro area, USA, China, and UK, 100 = 31 December 2019

Note: The rise in the level of the nominal effective exchange rate represents an appreciation, while the decline represents a currency's depreciation against the basket of currencies of 64 trading partners.
Source: BIS

Despite the easing of monetary policy, government bond yields of EU Member States remained unchanged due to economic weaknesses and geopolitical tensions. Uncertainty grew towards the end of the year, increasing the risk of a surge in volatility and risk premium corrections. Euro area government bond yields remained relatively unchanged in 2024, ending the year at 2.74%. Political instability and the decline in industrial production in the EU's leading economies [32] have increased risk perception and offset the effects of lower inflation and the ECB's incentives. At the same time, corporate bond risk premiums have been reduced (Figure 3.5), which may indicate an underestimation of credit risk and a redirection of investments towards higher-yield bonds.

Volatility in international bond markets grew towards the end of the year (Figure 3.6). The most pronounced growth in yields of 75 bp was recorded for US bonds (the yield reached 4.6%), primarily due to the strengthening of inflation[33] towards the end of the year and the rise in the term risk premium due to geopolitical uncertainty and monetary divergence of central banks.

Yields on government bonds of the Republic of Croatia fell by 30 bp and stood at 3.1% at the end of the year, continuing their convergence towards the yields of other euro area countries. This decline reflects above-average economic growth and improved public finances. As a result,

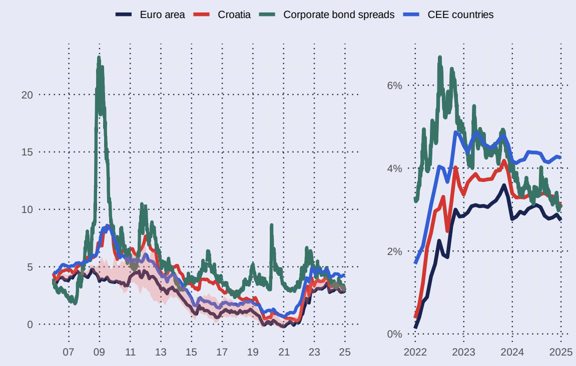
[31] In March 2024, for the first time in 17 years, the benchmark interest rate of the Bank of Japan was raised to a range of between 0 and 0.1% and the normalisation of the balance sheet was announced. The benchmark interest rate was further raised on two other occasions and stood at 0.5% at the end of January 2025.

[32] Germany's industrial production fell by –3.3% year-on-year in November, continuing a negative trend from mid-2023.

[33] In December 2024, the US inflation rate stood at 2.9%, growing three months in a row, after being 2.4% in September.

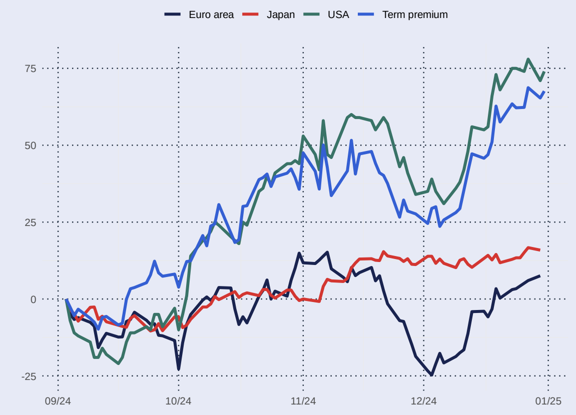
Croatia's credit rating was upgraded in 2024 to an above-average credit quality category[34] by all three leading credit rating agencies, to its highest level ever (Figure 2.17 in Chapter **2 Macroeconomic environment**). In line with the interest of retail investors, the issuance of national bonds and T-bills intended for retail investors[35] continued in 2024, with the intention of boosting the development of the domestic capital market and providing citizens with a safe alternative to savings in banks.

Figure 3.5 Government financing conditions remained almost unchanged, although risk premium for riskier bonds decreased
Yields on long-term government bonds, in %



Note: The ICE euro high yield spread (green line) denotes the yield spread between the index of risky European below-investment grade corporate bonds and treasury bills. The red area indicates the interquartile range of ields of EU countries
Sources: Bloomberg, Eurostat, St. Louis FED

Figure 3.6 Growth in bond yields in late 2024 was driven by global uncertainty
Growth in government bond yields since early September 2024, in basis points



Sources: ECB, St. Louis FED

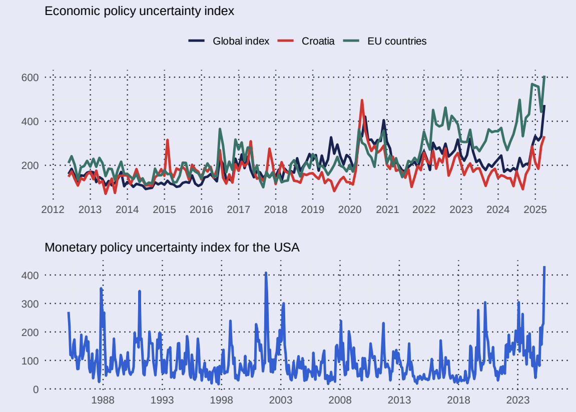
Investor sentiment

After a period of relatively stable economic policies, uncertainties increased in 2024, mainly due to geopolitical tensions, the fragmentation of global trade and the divergence of the US and European economies (Figure 3.7). The year 2024 was marked by weakened economic activity and occasional political crises, which highlighted the structural weaknesses of the European economy. The collapse of the governing coalition in Germany in November and the fall of the French government in December spurred uncertainty in Europe, which also affected bond markets[36]. The results of the presidential elections on the other side of the Atlantic contributed to global uncertainty due to the announcement of protectionist measures, deepening of the fiscal deficit and deregulation of the financial sector. In response, the FED decided to slow down the pace of interest rate cuts due to the uncertain effects of the new administration’s measures, which brought the monetary uncertainty index to its historical high at the end of March 2025 (Figure 3.7). War conflicts in Ukraine and the Middle East still pose a significant threat to the spread of economic shocks, in particular through energy prices and potential supply chain disruptions.

[34] In the second half of the year, the credit rating was upgraded from BBB+ and Baa2 levels to A– and A3, respectively.
[35] In 2024, there were five T-bill issues and one national bond issue, in which citizens invested around EUR 3.8bn.

[36] Yields on German and French government bonds grew by 30 and 60 basis points, respectively, from early 2024 to the end of the year.

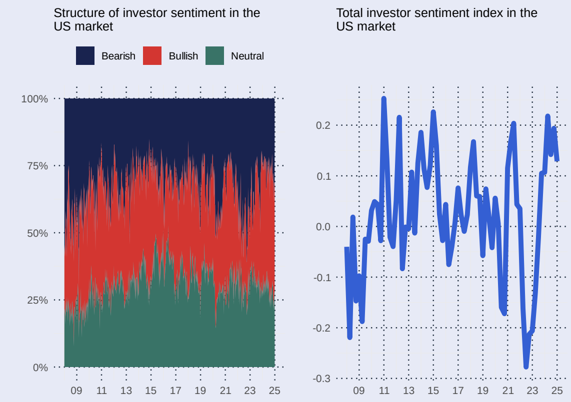
Figure 3.7 Political uncertainty in the EU and announced protectionism in the USA fuelled uncertainty in the second half of 2024



Note: The EU indicator shows the average indicator value for Italy, Germany and France.
Source: Economic policy uncertainty

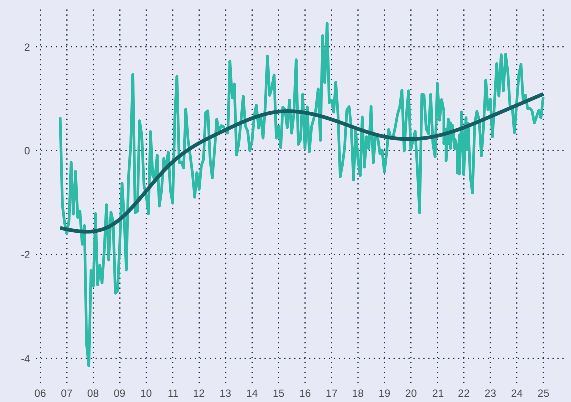
Despite growing economic and political uncertainty, investors maintained optimism, which pushed up market valuations. Given the sentiment sensitivity to shocks, optimism in the context of global uncertainty highlights the risk of stronger volatility and market corrections. The main sources of optimism in the USA (Figure 3.8) were the announcement of interest rate cuts and the resilience of the economy. The sentiment was further boosted by corporate earnings growth and enthusiasm for artificial intelligence's potential. The market quickly overcame short-term shocks such as the rise in the interest rate by the Central Bank of Japan and unemployment growth in the USA in August, even though these shocks highlighted the sensitivity of investor sentiment. Sentiment continued to improve in September after the FED cut interest rates by 50 bp and following the presidential elections in the USA. The Chinese economy is an additional source of uncertainty; despite the attainment of the 5% growth target, China is facing a real estate crisis and a weaker economic outlook. Investor sentiment in the domestic capital market remained stable in 2024, driven by positive macroeconomic indicators, which ultimately led to a strong growth in valuations of domestic companies (Figure 3.9).

Figure 3.8 Despite volatility towards the year-end, optimistic investor expectations remained unchanged in the USA



Note: The total investor sentiment index in the US market was estimated by summing up the relative shares of bearish and bullish investors, which were assigned numerical values of -1 and 1, respectively
Sources: American Association of Individual Investors (AAII), Hanfa

Figure 3.9 Upswing in domestic investor sentiment reflects positive developments in the domestic capital market
Investor sentiment index in the domestic capital market

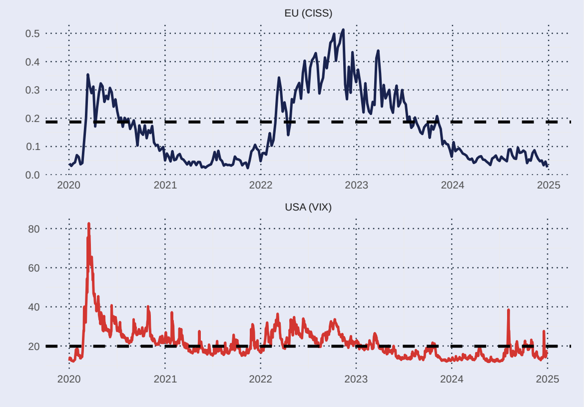


Sources: Bloomberg, Google, Hanfa, ZSE

Valuations and volatility in financial markets

Investor optimism and low volatility contributed to the reduction of financial stress in 2024 (Figure 3.10), although occasional strong reactions indicate market sensitivity to sudden shocks. There were no serious market shocks in the first half of 2024. Systemic stress in the EU remained subdued until the end of 2024, while financial markets in the USA experienced increased short-term volatility in the second half of the year. The fear of a recession, the rise in the interest rates by the Central Bank of Japan and the consequent appreciation of the yen resulted in a panic sale in the markets in August. Although the situation soon stabilised, markets were again upset by the FED's announcement in December of a slower dynamics of interest rate cuts in 2025. Given the current geopolitical tensions and monetary uncertainty, elevated market volatility is likely to persist in 2025, with growing risks to financial stability.

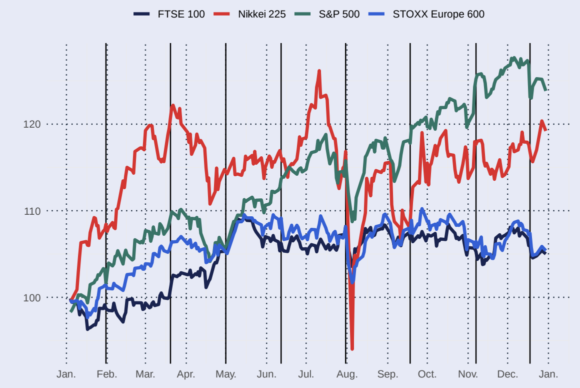
Figure 3.10 Subdued volatility despite short-term fluctuations in the US stock market



Note: The horizontal dashed lines indicate the average of the presented indices from the beginning of measurement.
Sources: St. Louis FED, ECB

While market valuations continued to grow strongly in 2024, high valuations point to growing risks and a potential underestimation of systemic threats. In the anticipation of interest rate cuts in early 2024, global markets continued the previous year's growth. Despite intense war conflicts and weakened consumer sentiment, markets recorded a stable and pronounced growth in valuations in the first half of the year, while stronger fluctuations with short-term corrections were recorded in the second half of the year[37]. European stock markets recorded more modest growth[38] due to a smaller share of technology companies and weaker economic indicators. However, some regional indices, such as the domestic CROBEX, which grew by 26%, increased considerably in 2024.

Figure 3.11 US stock markets grew more than markets in other regions in the second half of the year
Global stock indices, 100 = 29 December 2023



Note: The vertical lines indicate the dates of the FED meetings.
Source: YAHOO Finance

Most financial asset classes yielded solid returns in 2024, despite elevated systemic risks. Among them, the most prominent were riskier asset classes such as cryptocurrencies[39], driven by increased demand from traditional investors through the establishment of specialized ETFs and the announcement of deregulation in the USA, as well as general market optimism and a greater risk appetite. Among the traditional sectors, banks stand out with a 26% return, owing to high capitalisation and strong profitability based on high interest rates. The technology sector also grew – by 8% in Europe and by as much as 37% in the USA, mainly due to investors' interest in several leading companies and enthusiasm about the potential of AI. On

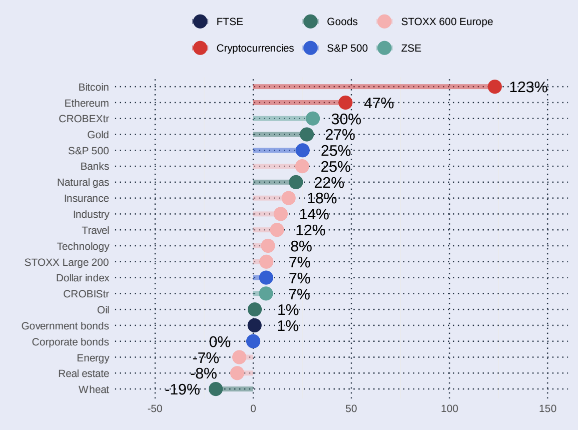
[37] On 5 August, the EU, UK and US markets recorded corrections ranging from 1.8% to 3%, while the correction on the Japanese market was 12.4%, the highest drop since the "Black Monday" in 1987.

[38] S&P 500, Nikkei 225 and Euro STOXX 600 recorded annual increases of 24%, 19% and 5%, respectively.

[39] In 2024, Bitcoin recorded a rise in value of 123%, surpassing the record value of USD 100,000 in December.

the other hand, the European real estate sector shrank by 8% due to weak economic indicators, high financing costs and reduced demand for business premises due to teleworking. Despite monetary policy normalisation, bonds did not record an increase in valuations, primarily due to the rise in risk premium and the expected increase in the number of offered government bonds in 2025. Gold prices soared by 27% in 2024, which also suggests heightened uncertainty, with central banks accounting for the bulk of demand. The price of natural gas rose sharply due to the cold winter conditions and the interruption of Russian gas flows through Ukraine towards the end of the year.

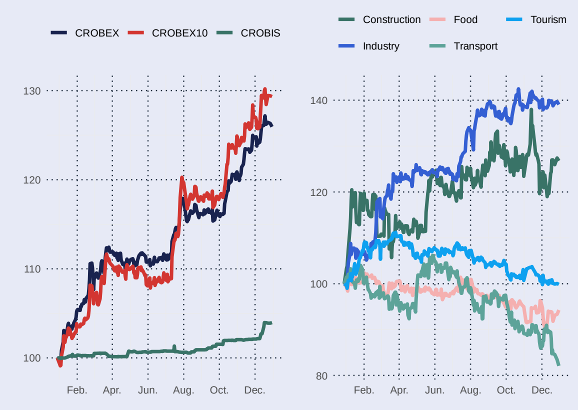
Figure 3.12 Continued positive developments in most asset classes
Change in index values from the end of 2023 to the end of 2024, in %



Sources: Bloomberg, ZSE, St. Louis FED

The strong growth of the domestic capital market continued in 2024, led by corporations in the industry and construction segments. The main stock index CROBEX rose by 26% in 2024 after an impressive 28% growth in the previous year, surpassing 3,000 points in October for the first time since 2008 (Figure 3.13). This was primarily due to good business results of CROBEX components [40] and increased dividend payments. However, investors' focus remained on the most liquid issues, as evidenced by the growth in the CROBEX10 index of almost 30%. The bond index CROBIS recorded a more modest increase of 4% in 2024, due to ECB interest rate cuts and an improvement in the public finance perspective that ultimately led to a credit rating upgrade.

Figure 3.13 Continued upturn in domestic market valuations concentrated in some issues and industries
ZSE indices, 100 = 29 December 2023



Source: ZSE

Broken down by sectors, industry (+39%) and construction (+27%) were at the forefront of growth in 2024, driven by excellent business performance and improved expectations for further growth[41] as well as the synergistic effect of rapidly growing corporations on the stock exchange [42]. Other sectors underperformed, with transport falling by almost 18% due to geopolitical tensions that increased the volatility of shipping

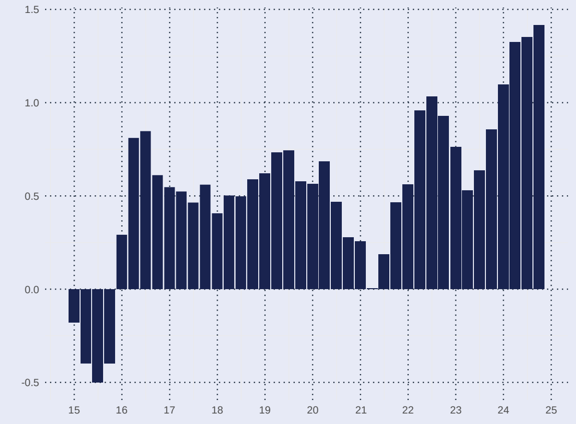
[40] In the first three quarters, CROBEX components generated a profit growth of 102% from the same period of the previous year.

[41] Two stocks stand out with a three-digit growth in the sector index, namely KONČAR – Distributivni i specijalni transformatori d.d. za proizvodnju and Končar d.d., with a growth of 129% and 137%, respectively.

[42] Dalekovod d.d. made the largest contribution with an annual growth of 58%. This is attributed to the fact that Dalekovod d.d. belongs to the KONČAR Group, whereby a portion of the Group's growing business is transferred to companies in which it has a majority stake.

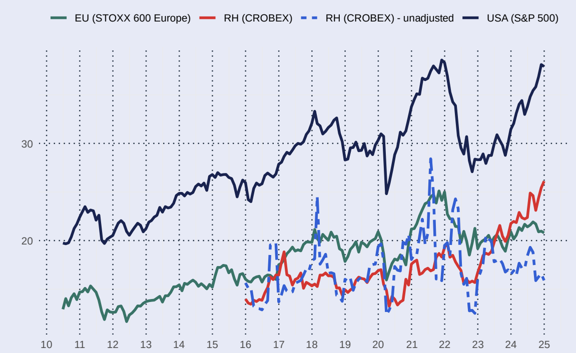
prices, while the food sector fell by 6% due to rising input costs and potentially challenging acquisitions[43]. Although the tourism sector recorded an increase in valuations and turnover at the beginning of the year, it ended the year with a slight decline of 0.2%, indicating concerns about the economic situation in the main outbound tourist countries and reduced price competitiveness (more information in Chapter **2 Macroeconomic environment**).

Figure 3.14 Growing profits of domestic issuers amid economic expansion
Net profit of issuers, in EUR bn



Source: Hanfa

Figure 3.15 Valuation growth adds to accumulation of overheating risk in stock markets
Cyclically adjusted price-to-earnings ratio



Note: The cyclically adjusted price-to-earnings ratio shows how many times a stock's value is higher than average ten-year earnings a company generates per stock, where a higher value indicates a relative overvaluation compared with the fundamentals, or the added value a company generates. The dashed blue line indicates the unadjusted price-to-earnings ratio which takes into account companies' current prices and earnings.
Sources: Bloomberg, Eurostat, Robert J. Shiller

Price growth in an uncertain environment highlights the risk of market overheating, which can lead to abrupt corrections and potentially threaten financial stability. The US capital market grew sharply in 2024, driven by investors' interest in technology stocks[44], a suppressed risk premium and rising corporate profits[45]. As a result, the US price-to-earnings ratio stood at 38[46] at the end of 2024, bringing valuations quite close to historically high levels (Figure 3.15). European capital market valuations remained moderate, with the price-to-earnings ratio of companies in the STOXX 600 amounting to 21 at the end of 2024. High valuations in financial markets imply widespread optimism among investors, which elevates risks to financial stability in the event of new shocks.

The cyclically adjusted price-to-earnings ratio of CROBEX index components started to move further away from European levels, indicating an increase in investor optimism compared to historical indicators of the profitability of domestic issuers (Figure 3.15). However, given the current expansionary phase of the business cycle, valuation growth was in line with the increase in the profitability of domestic companies, as evidenced by the relative stability of the price-to-earnings ratio, which stood at 16.5 at the end of the year. The sustainability of the recent growth will therefore depend on the assumption of continued performance growth of domestic companies, while a

[43] Towards the end of the year, Podravka held a majority stake in the agricultural segment of the Fortenova Group.
[44] Influential technology companies, also known as the Magnificent 7, account for a third of the S&P 500 index, and their market capitalisation has grown by 800% over the past decade.
[45] The profits of companies in the S&P 500 index that submitted reports grew annually by 16.4% in the last quarter of 2024.
[46] The mentioned price-to-earnings ratio was in the 97th percentile of the historical distribution at year-end.

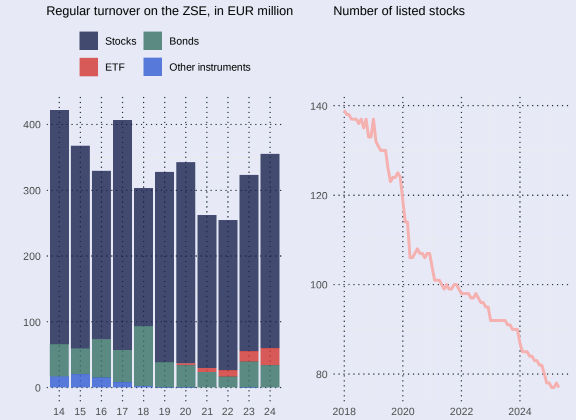
potential economic slowdown could jeopardise the mentioned optimism and have an unfavourable impact on market valuations and, indirectly, on the profitability of domestic institutional investors. Although the domestic capital market shows no signs of extreme overvaluation, abrupt changes in global financial market sentiment could also lead to a decline in the domestic market, which, despite recent positive cyclical developments, is still characterised by several structural weaknesses.

Market liquidity and concentration

Price growth in 2024 was also accompanied by an increase in activity in the domestic capital market, which remained concentrated in a few of the most liquid issues. Regular turnover stood at EUR 355m in 2024, up by almost 10% from the year before (Figure 3.16). Stocks accounted for the largest share (83.2%) of regular trading, while bonds accounted for 9.4%. The importance of ETFs continued to grow in 2024, with their share in total regular turnover reaching 7.3%, a 2.3 pp growth year-on-year. In addition, the listing of a new ETF[47] on the domestic stock exchange indicates the growing importance of this type of financial instruments among investors.

Despite positive developments, the concentration of trading has remained a structural vulnerability of the domestic market, which again recorded a decrease in the number of listed shares in 2024[48]**.** The top five most traded stocks[49] accounted for about half of total turnover in 2024, with the top three most liquid stocks accounting for as much as a third of total turnover (Figure 3.17). The strongest increase in concentration was recorded in October, when the top five and the top three stocks accounted for almost 61% and 50% of total trading, respectively, which can be attributed to investor interest spurred by actions of individual corporations[50]. At international level, the ZSE trading concentration at the end of 2024 was below average levels on European equity markets.

Figure 3.16 Growing trading volume overshadowed by the downward trend in the number of listed stocks



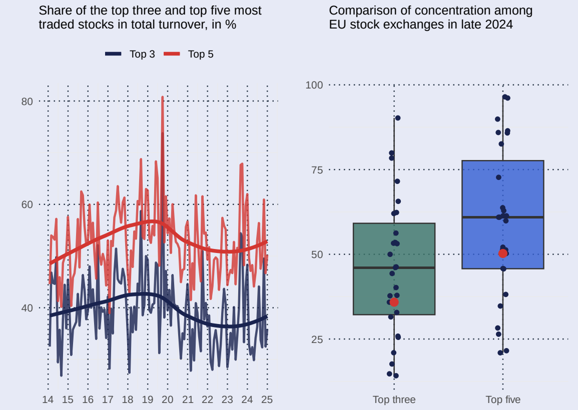
Sources: Hanfa, ZSE

Price growth in 2024 increased overall market capitalisation by 23.3%, to EUR 50.3bn at the end of the year.[51]. While the 26.3% increase in the capitalisation of stocks was the result of an increase in valuation, the 19.3% increase in the capitalisation of bonds was largely due to

[47] Mid-2024 saw the listing of the fifth ETF, providing investors the opportunity to invest in the Romanian government bond market, with a focus on maturities from 5 to 10 years.
[48] The number of listed stocks at the end of the year was reduced from 87 to 78.
[49] The top five most traded stocks were HT, Končar, Podravka, Ericsson Nikola Tesla and Končar – D&ST.
[50] The most traded stock in October was the stock of HT d.d., which generated a turnover of EUR 10.4m (26.9% of total trading on the stock exchange in October) as a result of the share buyback programme and the reduction of the government equity share.
[51] Stocks remain the most significant segment, with a share of 57.5%, while bonds account for 42.4% of total market capitalisation.

new bond issues. In addition to trading concentration, there is an increasing concentration of the market capitalisation of stocks, with the top five fastest growing stocks accounting for almost 65% of total market capitalisation at the end of the year (Figure 3.18). These trends indicate that investors are oriented towards a smaller segment of the market, which makes the market vulnerable to potentially poorer performance of leading companies.

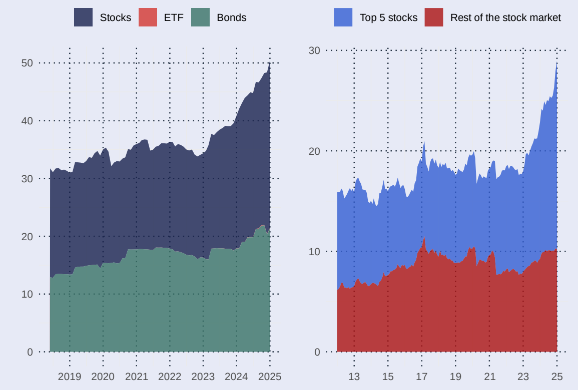
Figure 3.17 ZSE trading concentration below-average levels in late 2024 compared with other EU stock exchanges



Note: The red dot on the right-hand side denotes the ZSE.
Sources: FESE, Hanfa, ZSE

Figure 3.18 Surge in market capitalisation concentration in the domestic stock market

ZSE market capitalisation, in EUR bn

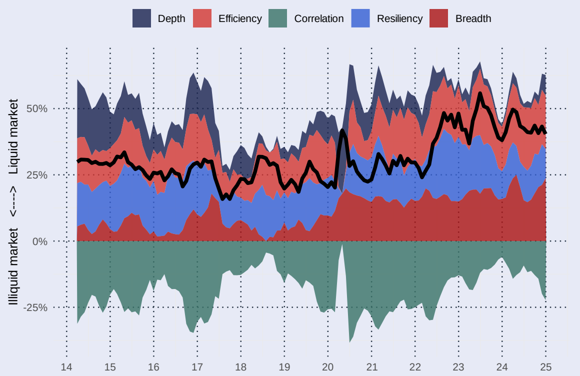


Note: The top five stocks with the highest market capitalisation are ZABA, INA, HT, Končar and Podravka.
Sources: Hanfa, ZSE

Despite increased activity, the average liquidity of stocks in the domestic market deteriorated slightly in 2024. The highest level of liquidity was recorded at the end of the first quarter owing to improved components of breadth and efficiency, but it deteriorated slightly in the remainder of the year due to weaker market resilience and efficiency. A decrease in the depth component was also observed, which had a negative impact on other liquidity components. The low liquidity and growing concentration of trading and market capitalisation make the market vulnerable to potential negative shocks in an environment of high macroeconomic and geopolitical risks.

Figure 3.19 Improved liquidity from early 2024 was not reflected in the rest of the period under review

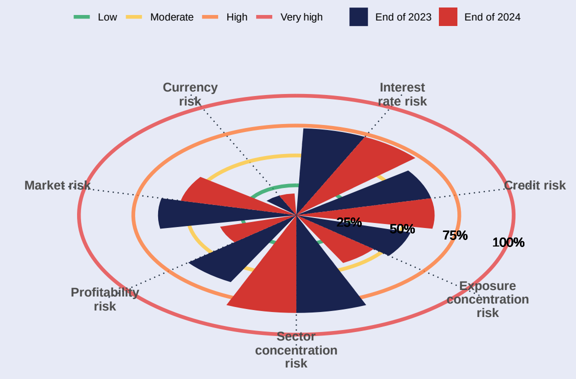
Stock market liquidity index (TILDA), in %



Note: The value of the TILDA indicator of 100% indicates a completely liquid market, while the value of 0% indicates a completely illiquid market
Source: Hanfa

4 PENSION FUNDS

Figure 4.1 Favourable macroeconomic and market trends in 2024 reduced systemic risk exposure of pension funds
Systemic risk score for the pension funds sector, in %



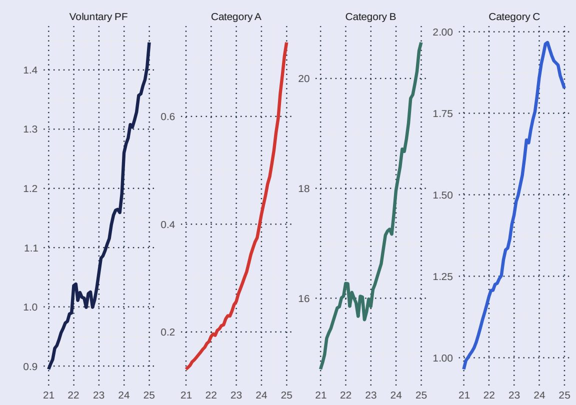
Source: Hanfa

Against the backdrop of favourable macroeconomic and market conditions, pension funds increased their assets and generated solid returns in 2024. The continued diversification of portfolios, particularly through the growth of cross-border exposures, reduced the sector's vulnerability to domestic shocks, but exposure to global market risks and interest rate risks has remained high. High valuations of riskier asset classes in an environment of elevated geopolitical and monetary uncertainties in early 2025 highlight these risks and point to the need for more flexible investment strategies. The legislative amendments that entered into force in 2024 support this adjustment by allowing more investment choices, more effective protection of asset value and additional options for members.

Key cyclical trends

Positive market developments and stable net contributions, supported by favourable labour market developments, spurred the growth of pension fund assets in 2024. Total net assets of pension funds reached EUR 24.7bn at the end of 2024, with a growth of 14.8% in both mandatory and voluntary funds (Figure 4.2). Category A mandatory funds recorded the strongest increase in net assets, of 76.6%, owing to the inflow of funds from new members[52] (Figure 4.3). Category B, which accounts for 89.0% of total assets of mandatory pension funds, also recorded strong growth in net assets, of 15.0%. The abolishment of the automatic transfer of members to a category C fund five years prior to retirement[53] significantly reduced new contributions. Combined with an increase in fund outflows, this led to a 1.7% fall in net assets of this category in 2024.

Figure 4.2 Growth in pension fund assets continued in 2024
Net assets of pension funds, in EUR bn

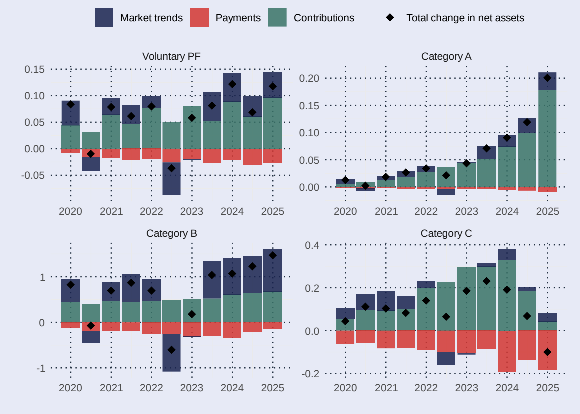


Source: Hanfa

[52] New members who, after their first employment, do not choose a pension fund and its category, are automatically assigned by REGOS to a category A pension fund under management of one of the pension companies.

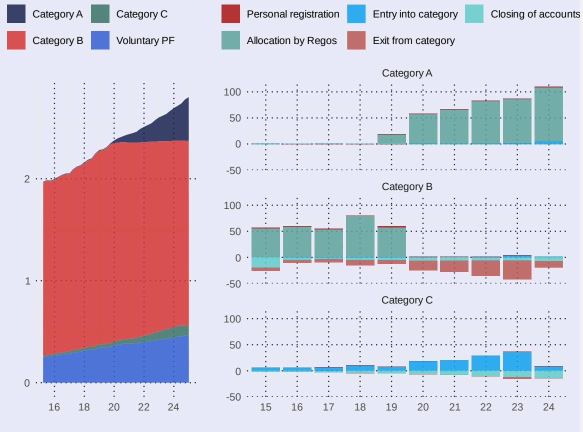
[53] Act Amending the Mandatory Pension Funds Act (**Official Gazette, No 156/23**) entered into force on 1 April 2024.

Figure 4.3. Positive market trends and stable net contributions gave a boost to the strong growth in pension fund assets in 2024
Semi-annual change in net assets of pension funds, in EUR bn



Source: Hanfa

Figure 4.4 Number of pension fund members reached 2.8 million
Number of members, in million
Annual change in MPF membership, in thousands



Sources: Hanfa, REGOS

The number of pension fund members reached 2.8 million at the end of 2024. The number of members of mandatory pension funds increased by 85.2 thousand[54] (an increase of 3.8%), while the number of voluntary pension fund members went up by 23.8 thousand (an increase of 5.4%), reaching a total of 466.8 thousand members (Figure 4.4). The abolishment of the automatic transfer of members to category C funds five years before retirement led to a decrease in the number of members within that category[55], which, as the pension system transitions into the payout phase, is putting additional pressure on achieving adequate returns for members due to further expected negative net contributions. Interest in voluntary pension savings has been steadily growing, but its full potential has not yet been achieved, despite government incentives and flexible savings and payout options.

With the aim of further strengthening the pension system, legislative amendments for the second and third pillars of capitalised savings entered into force in early 2024 [56], focusing on broader investment opportunities, reduced fees and increased freedom of choice for members. Switching to another mandatory pension fund category was also simplified, making it easier for members to match their needs with available pension plans. The current distribution of members of mandatory pension funds still largely depends on automated allocations (allocations of new members [57] or mandatory automatic transfers of members to other categories (Figure 4.4)), which suggests that there is a need to further improve financial literacy and raise awareness about long-

[54] The number of category A pension fund members increased by 109.7 thousand, while the number of category B and C fund members decreased by 18.1 thousand and 6.4 thousand, respectively.

[55] At end-2024, the number of category C mandatory pension fund members declined by 11.1 thousand (10.5%) from the end of the first quarter of 2024.

[56] These were amendments to the Act on Mandatory Pension Funds (**Official Gazette, No 156/23**), the Act on Voluntary Pension Funds (**Official Gazette, No 156/23**) and the Act on Pension Insurance Companies (**Official Gazette, No 156/23**), of which some provisions entered into force on 1 January 2024, and some entered into force on 1 April 2024.

[57] In 2024, only 2.5% of new members of mandatory pension funds chose a pension fund independently, while the rest of the members were automatically reassigned to category A funds.

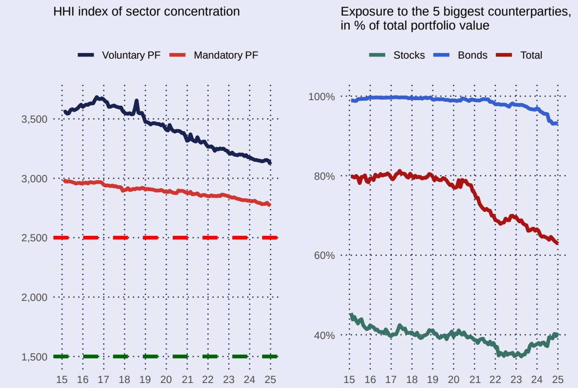
term risks and the importance of personal choice in the selection of a pension savings scheme.

At the end of 2024, assets of the pension funds sector came to 28.9% of GDP and 19.9% of total assets of the domestic financial system, making the funds the second most important segment of the domestic financial system after credit institutions. In addition to their size, they are also important because of their long-term orientation and stable money flows, thus having a significant impact on the domestic capital market and the economy as a whole.

Structural characteristics and risks

The concentration of mandatory and voluntary pension fund asset management has been gradually decreasing, but nevertheless, remains high. On the one hand, a high concentration (Figure 4.5) allows for greater asset management efficiency and thus a potential reduction in fees and a consequent increase in net returns for members, on the other hand, it increases the vulnerability of pension funds to systemic risks.

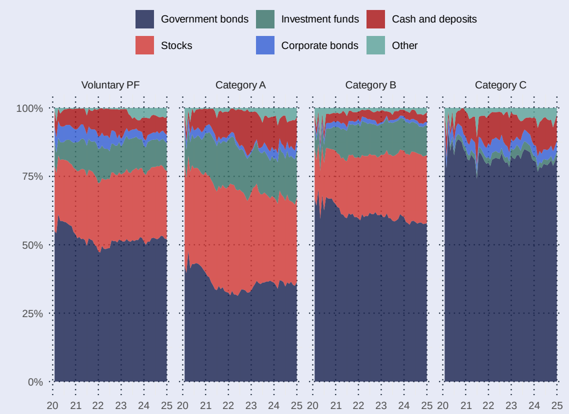
Figure 4.5 Reduced sectoral and investment concentration of the pension funds sector



Note: The left-hand side shows sector concentration by fund management companies. According to the classification made by the US Department of Justice, markets with an HHI of less than 1,500 are considered competitive, while markets with an HHI exceeding 2,500 are considered highly concentrated.
Source: Hanfa

The operations of pension funds are largely characterised by a relatively high concentration of investments in government bonds, which continued to decline in 2024. At the end of 2024, government bonds accounted for 58.7% of the total portfolio (Figure 4.6), of which three quarters were accounted for by domestic government bonds. A relatively high concentration is also present in the stock segment of the portfolio, where the five largest exposures accounted for 40.5% of the total stock portfolio at the end of 2024 (Figure 4.5).

Figure 4.6 Trend of declining investment concentration continued into 2024
Structure of pension funds' investments by type of investment, in % of total assets



Source: Hanfa

The current high level of investment concentration is largely affected by legal limits, especially as far as investments in different asset classes are concerned. To adapt to changing market circumstances and provide more flexibility to pension fund managers, the legislative amendments that entered into force in 2024 have further expanded the investment opportunities of pension funds. Depending on the category, investment opportunities were expanded to include investments in new forms of assets such as real estate, unlisted mortgage bonds and equity securities traded on multilateral trading platforms.

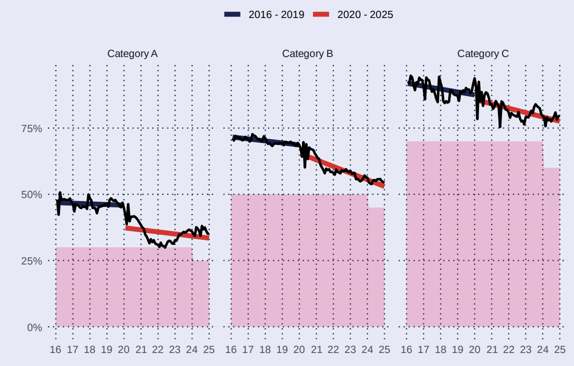
Category A and B mandatory pension funds are also additionally obligated to invest a minimum of 5.0% of net assets in an alternative investment fund with a government guarantee of return of total investment. Category C funds have been allowed to invest in highly liquid and low-risk stocks and ETFs. Restrictions on existing investments concerning the share of individual asset classes or individual issuers have also been relaxed. Important changes include a reduction in required investments in bonds issued by the Republic of Croatia, another EU Member State or OECD member or their central banks (Figure 4.7), which opens up additional space for further investment diversification. An important precondition for broader diversification was Croatia's entry into the euro area in early 2023, which significantly facilitated cross-border investments.

The share of government bonds in total investments fell by 2.2 pp from the end of 2023, primarily due to reduced investments in Croatian government bonds, whose share in total investments fell to 44.2% at the end of 2024, down by 8.0 pp from the previous year. At the same time, in search of higher coupon returns, the funds increased their exposure to government debt of other EU Member States, by 5.2 pp, which at the end of 2024 accounted for 9.8% of the total investments of pension funds [58] (Figure 4.8). Equity investments also rose in 2024, by 0.8 pp, accounting for 23.2% of total investments at the end of the year, as a result of an active increase in the funds' exposure, as well as an increase in the market value of existing equity investments. The bulk of equity investments is accounted for by domestic stocks, whose share rose to 14.4% of total investment, mainly due to the good performance of the domestic capital market in 2024 (more information in Chapter **3 Financial markets**).

Diversifying investments across more asset classes and countries reduces concentration risk and the significance of potential idiosyncratic shocks, but also increases the sector's exposure to market fluctuations and possible sudden price changes.

Figure 4.7 Relaxation of prescribed limits has created room for greater investment flexibility

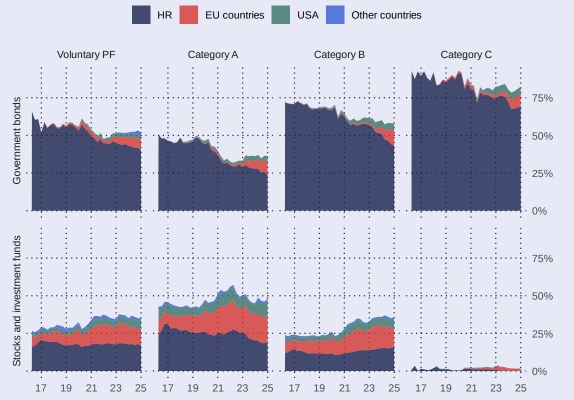
Exposure to bonds issued by RH, another EU Member State or the OECD or their central banks, in % of fund net assets



Note: The highlighted area indicates legal limits on the minimum exposure to the bonds concerned in accordance with the provisions of the Act on Mandatory Pension Funds.
Source: Hanfa

Figure 4.8 Foreign exposures gain in importance

Structure of pension funds' investments in bonds, stocks and investment funds, in % of total assets



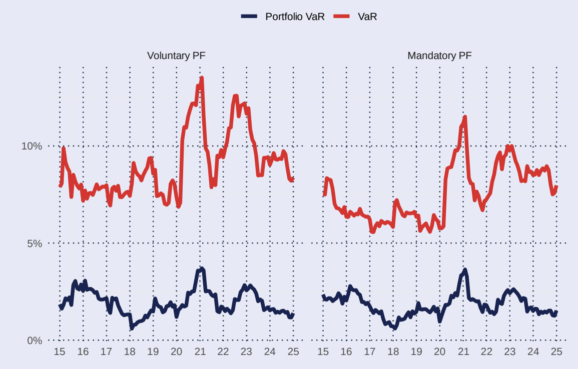
Source: Hanfa

[58] Of the EU Member States, the largest exposures are to government bonds of Belgium (3.9% of total investments), France (2.4%) and Poland (1.2%).

Positive developments and subdued volatility in financial markets in 2024 contributed to the mitigation of market risks for pension funds (Figure 4.9). However, risks remained elevated due to growing geopolitical uncertainty and very high valuations in some markets. Heightened geopolitical tensions paired with a subdued risk premium (Figure 4.10) and high valuations in financial markets increase the likelihood of sudden price corrections, particularly in the event of unfavourable economic indicators or the emergence of other systemic shocks. Changes in the trade and tax policies of the new US administration significantly increased uncertainties in global financial markets in early 2025, with weakened growth expectations and a possible acceleration of inflationary pressures in the short and medium term. In such an environment, pension funds are faced with challenges in maintaining stable returns and safeguarding the value of members' assets, which requires careful management of portfolio risks and adjustment to market fluctuations.

Figure 4.9 Investment dispersion and positive market trends reduced pension funds' exposure to market risks in 2024

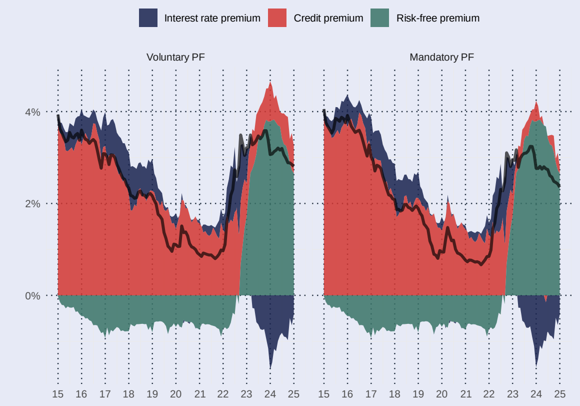
Estimated loss on investment in stocks and investment funds under an adverse scenario with probability of materialisation of 5%, in % of assets



Note: The blue line shows the estimated portfolio risk value, while the red line shows the risk value of individual exposures estimated on the basis of weekly returns during a one-year moving window.
Sources: EOD Historical Data, Hanfa, ZSE

Figure 4.10 Interest rate and credit premium at historical lows

Estimate of individual components of yield to maturity



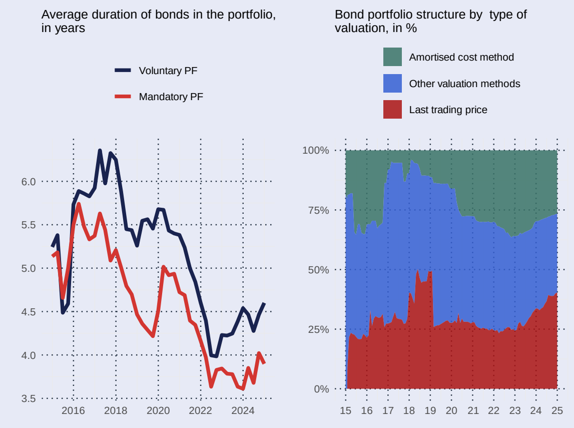
Note: The chart shows the decomposition of the weighted yield to maturity on the bond portfolio of the funds observed.
Sources: Eurostat, Hanfa

Given the large share of bonds in pension fund portfolios and the very high monetary uncertainty at the beginning of 2025, interest rate risk poses one of the main challenges for pension funds' operations. They significantly reduced the duration of their bond portfolios in 2022 and 2023, mitigating the negative effects of interest rate hikes. However, monetary policy easing and interest rate cuts[59], coupled with suppressed risk premium, leave the sector exposed to interest rate risk, which stood at elevated levels at the end of 2024. In addition, the increase in the share of assets valued at the most recent trading price increases portfolio sensitivity to interest rate changes (Figure 4.11). Heightened geopolitical tensions increase monetary uncertainty and thus the likelihood of interest rate risk materialisation at the beginning of 2025, which requires continued proactive portfolio adjustments to mitigate the negative effects of these risks, but also to seize potential reinvestment opportunities.

[59] In 2024, the duration of the bond segment of the portfolio of mandatory pension funds and voluntary pension funds increased by 0.3 and 0.1 years, respectively.

Due to the high exposure to domestic government bonds, credit risk of pension funds is highly dependent on the rating of the domestic fiscal sector, which improved further in 2024 and reached the highest level so far. Public finance indicators of the Republic of Croatia improved even more in 2024 under the influence of strong revenue growth, which further decreased relative debt indicators and maintained government bond yields at stable levels of around 3% (more information in Chapters 2 Macroeconomic environment and 3 Financial markets). The upgrading of Croatia's credit rating to an above-average credit quality category by all three leading credit rating agencies further confirms the market perception of the stability of the domestic bond market, making it more resilient to possible sudden changes in the global risk premium.

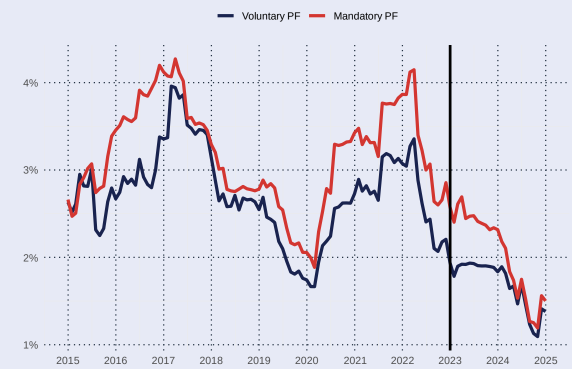
Figure 4.11. Trend of declining duration was halted amid the easing of the restrictive monetary policy



Source: Hanfa

Croatia's accession to the euro area has reduced the currency exposure of pension funds and opened up additional space to increase cross-border investment. While pension funds continued to increase their cross-border investments in 2024, they are still mostly focused on euro area issuers. The largest source of currency risk remains the exposure to the US dollar, which stood at 13.2% of total assets at the end of 2024 (2.3 pp less than at the end of 2023). Given the moderate fluctuations in the exchange rate of the euro against the US dollar in 2024, the exposure to currency risk was further reduced (average currency VaR of the portfolio dropped to its lowest level in the last 10 years at the end of October, Figure 4.12). In the current uncertain environment, characterised by rising trade tensions and changes in economic policies, the volatility of the euro/US dollar exchange rate is likely to increase. Looking ahead, its evolution will primarily depend on economic indicators, monetary policies and market perceptions of risk.

Figure 4.12 Currency risk of pension funds further reduced in 2024
Average portfolio VaR, in % of assets

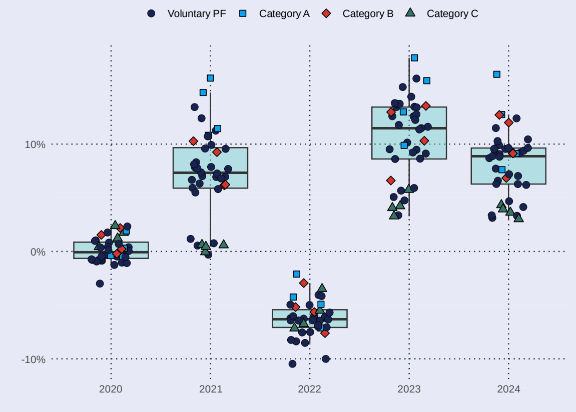


Note: The average currency VaR of the portfolio (Value at Risk) is the maximum loss of the portfolio in the observed period caused by exchange rate changes, with a confidence level of 95%. The chart shows the value at risk of individual currency exposures estimated on the basis of weekly returns over a two-year moving window. The vertical line denotes the date of Croatia's accession to the euro area.
Source: Hanfa

Returns

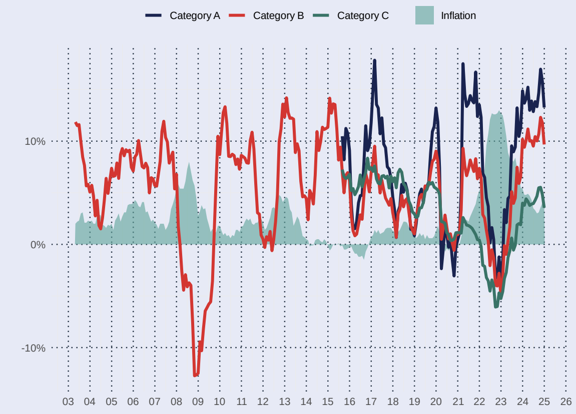
All pension funds recorded positive returns in 2024, owing to favourable economic conditions and the rise in market valuations (Figure 4.13). Despite geopolitical tensions and occasional volatility, stock markets grew more strongly than bond markets in 2024 (more information in Chapter 3 Financial markets), so that category A funds recorded the highest returns (13.3%). Category B funds generated a return of 9.7%, while the most conservative category C funds made a return of 3.6% in 2024. In the segment of voluntary pension funds, open-ended and closed-ended funds generated an average return of 6.6% and 8.5%, respectively. The effect of high nominal returns was mitigated by continued inflationary pressures that strengthened further towards the end of the year, resulting in a negative real return of –0.9% for category C funds (Figure 4.14).

Figure 4.13 All pension funds continued to generate positive returns in 2024
Distribution of returns by individual fund, in %



Note: Return is the percentage change in the value of units in the year under review.
Source: Hanfa

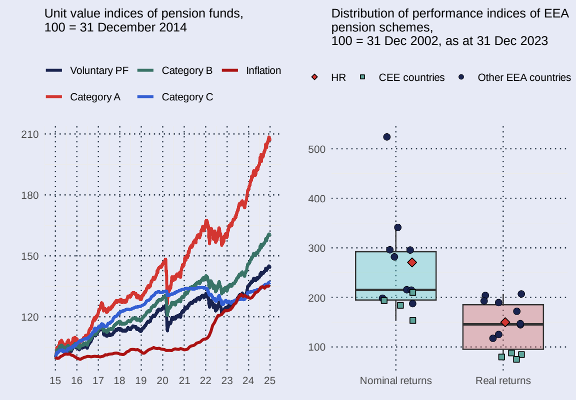
Figure 4.14 Mandatory pension funds made high returns in 2024
Annual return, in %



Sources: Eurostat, Hanfa

While short-term shocks, such as the COVID-19 crisis or the strong increase in interest rates in 2022, may have a negative impact on pension fund returns, their performance needs to be viewed in a long-term perspective, in relative terms and in relation to alternative investment options. In this context, domestic pension funds have generated stable and competitive returns [60], especially compared to similar funds in CEE countries (Figure 4.15).

Figure 4.15. Performance of pension funds should be interpreted in terms of their investment horizon



Note: Data on the right-hand side for Croatia refer to the performance of mandatory category B pension funds. CEE countries in the sample observed are Bulgaria, the Czech Republic, Estonia and Latvia, while other EEA countries are Austria, Denmark, Iceland, Italy, the Netherlands, Norway, Germany and Portugal.
Sources: Hanfa, Eurostat, OECD

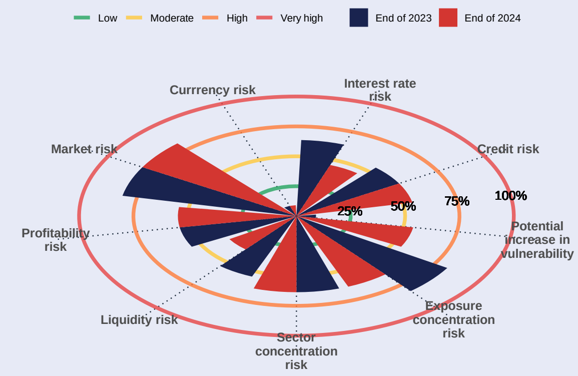
However, uncertainties surrounding geopolitical conflicts and trade policies will make it difficult for pension funds to generate high returns seen in the past two years. High valuations in global stock markets with subdued risk premium increase the risk of abrupt corrections. On the other hand, the domestic bond market is more resilient owing to the entry into the euro area and improved public finances. This is also evidenced by the stability of Croatian government bond yields; they remained at around 3% in early 2025, similar to levels seen in 2024, which offers some stabilisation potential in the medium term and partly offsets fluctuations in stock markets.

[60] Real returns of mandatory pension funds from the start of their operations to date were in line with the expectations corresponding to their risk profiles – the funds in the categories A, B and C generated an average annual real return of 5.0%, 2.7% and 0.6%, respectively.

5 INVESTMENT FUNDS

Figure 5.1 Favourable developments in the sector of investment funds reduced their risks In 2024

Systemic risk score for the investment funds sector, in %



Source: Hanfa

The larger offer of funds and favourable market trends spurred the interest of retail investors in domestic investment funds. Newly established money market funds attracted significant investments, with most categories of UCITS recording stable net inflows in 2024. Favourable market developments had an impact on returns, which were positive for all fund categories. As a result, net assets of the entire sector rose sharply, by 41.0%, reaching their highest level since 2019 at the end of the year. The larger offer of UCITS also led to favourable structural shifts, with a reduction in liquidity risk and investment concentration. However, global uncertainties at the beginning of 2025 have kept the sector's systemic risks at an elevated level, exposed to market and interest rate shocks.

Key cyclical trends

Positive developments in financial markets also affected the operations of domestic UCITS, whose net assets reached their highest level since 2019. Net assets of UCITS soared by 41.0% in 2024 and stood at EUR 3.2bn at the end of the year (Figures 5.2 and 5.3). The largest contribution to growth came from money market funds, with net inflows of EUR 577.2m. Inflows in 2024 were generated by both target-date funds and equity funds, while bond funds again recorded net outflows.[61] These developments suggest that some assets from bond funds were kept within the system and redirected to alternative categories of funds, such as money market funds and target-date funds, which currently provide better investment opportunities than bond funds. These developments also affected the market structure of UCITS, with bond funds no longer being the dominant category – at end-2024, they accounted for 25.0% of total net assets of all UCITS[62]. However, together with other conservative fund categories (money market funds and target-date funds) they account for 67.7% of total net assets of UCITS.

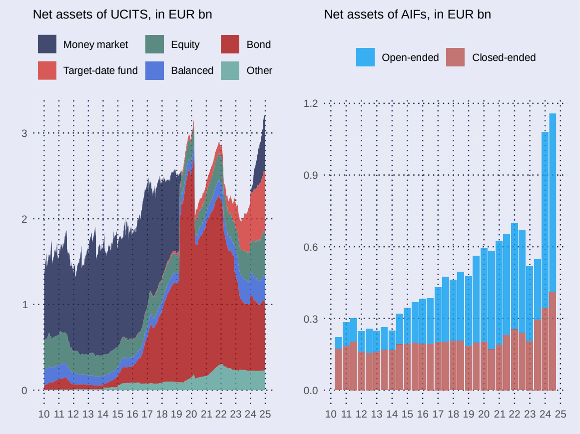
Alternative investment funds also recorded sharp growth, of 111.8%, as of mid-2023, due to the establishment of a new alternative investment fund. As a

[61] Target-date funds generated net inflows of EUR 140.3m (an increase in net assets of 30.3%), while equity funds generated net inflows of EUR 86.0m (an increase in net assets of 44.1%). In 2024, bond and feeder funds recorded net outflows of EUR 60.8m (a decline in net assets of 7.4%) and EUR 5.9m, respectively.

[62] At end-2022, bond funds accounted for 50.9% of total net assets, while at the end of 2023, they accounted for 38.0% of total net assets of UCITS.

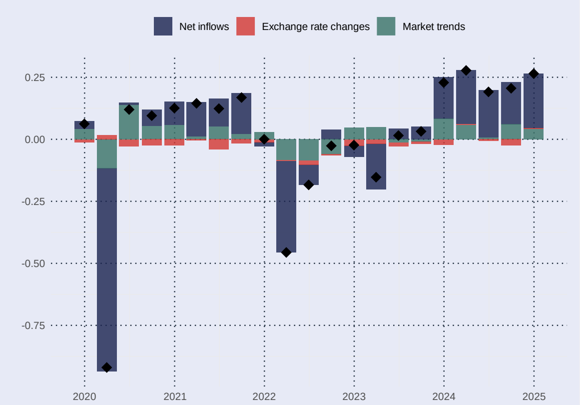
result, their net assets stood at EUR 1.2bn at the end of June 2024, historically the highest level of net assets of AIFs (an increase of 7.1% in the first six months of 2024).

Figure 5.2 Net assets of UCITS fully recovered and reached their highest level ever



Source: Hanfa

Figure 5.3 Expansion and larger offer of UCITS triggered an increase in net assets over 2024



Source: Hanfa

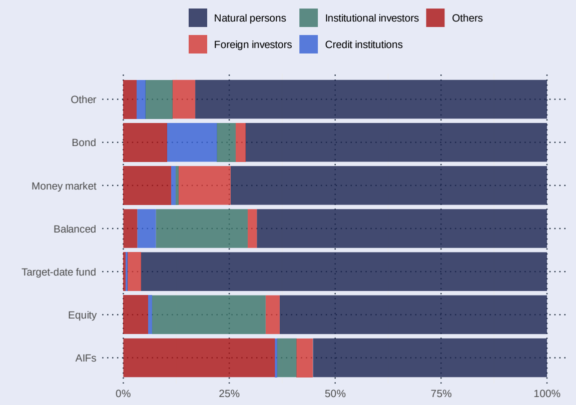
Excellent results in previous years, a positive investment sentiment and a larger offer of domestic UCITS contributed to the growth of the sector, which is dominated by retail investors, whose share increased further, reaching 71.0% at the end of 2024 (Figure 5.6). More conservative investors are increasingly choosing target-date funds – in 2024, their number rose by 8, while their net assets increased by 30.3%. These are relatively conservative funds that predominantly invest in bonds (at the end of 2024, bonds accounted for 90.0% of their assets) and are an alternative to classic bond funds, which are traditionally preferred by investors in the domestic market (for more information about this type of funds, see **Box 1 Target-date fund – safe returns or silent risk?**). As of the end of 2023, investors in the domestic market can again invest in money market funds, which invest assets in low-risk and short-term instruments such as bank deposits, money market instruments and short-term bonds. In 2024, the number of money market funds increased to five. At year-end, their net assets stood at EUR 0.7bn, accounting for 20.9% of total net assets of UCITS. Although bond funds, target-date funds and money market funds are all more conservative forms of investment, the choice between them depends mostly on the balance between expected return and liquidity needs. Target-date funds have lower management fees and bring potentially higher returns to investors, but only under the assumption that assets are kept until the fund's maturity date. On the other hand, money market funds provide very high liquidity and availability of invested funds, but with relatively lower expected returns. Bond funds rely on a combined approach between liquidity and generating competitive returns.

In 2024, the offer of funds integrating sustainability principles into their investment policies was extended from 39 to 42[63], while the number of ETFs rose from four to five. Compared to other investment funds, ETFs offer investors

[63] This relates to funds complying with Articles 8 or 9 of the SFRD.

greater transparency and trading flexibility, with diversified investments and often much lower management fees than funds relying on active management.

Figure 5.4 Household sector predominates in the investor structure of UCITS
Structure of shareholders, in %

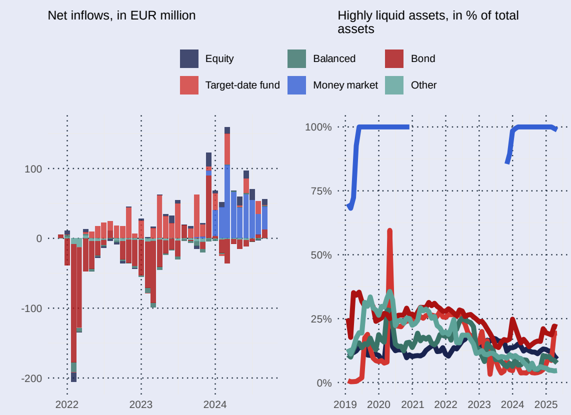


Note: Data for UCITS refer to the end of 2024 and for AIFs to the first half of 2024.
Source: Hanfa

The investment structure of the sector is relatively diversified given the high share of retail investors, but the investment fund sector is inherently subject to the risk of sudden outflows in the event of a systemic shock. Retail investors often react quickly and strongly to negative economic news and market shocks, which have become increasingly likely in the context of high geopolitical risks at the beginning of 2025. In 2024, no significant liquidity pressures were observed at the level of the investment fund sector (Figure 5.6). However, the materialisation of global shocks might lead to liquidity shocks in the domestic market.

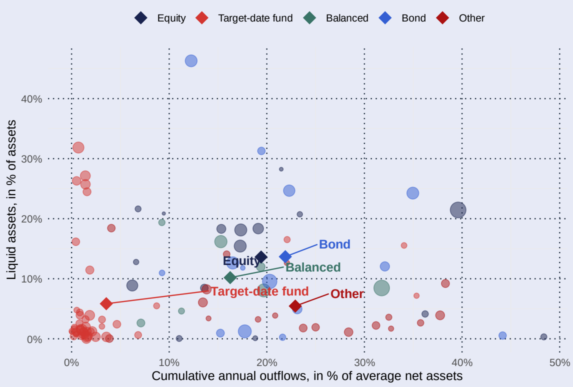
The liquidity of UCITS improved significantly in 2024, mainly due to changes in the market structure of the sector. At the end of 2024, the share of liquid assets stood at 30.6%, an increase of 15.2 pp from the end of 2023. This was the result of structural changes and the establishment of money market funds, the assets of which consist almost entirely of liquid assets (Figure 5.5). The liquidity of other types of UCITS remained broadly unchanged throughout 2024. While highly represented bond and money market funds have large liquidity reserves[64] (Figure 5.6), some categories, such as target-date funds, have lower liquidity buffers. However, they also have mechanisms to hedge against sudden outflows, primarily in the form of high exit fees[65] (more information in **Box 1 Target-date fund – safe returns or silent risk?).**

Figure 5.5 Establishment of new money market funds strengthened the liquidity of UCITS



Note: Highly-liquid assets are cash, deposits and money market instruments.
Source: Hanfa

Figure 5.6 Target-date funds have lower asset liquidity indicators, but also a more stable investor base



Note: Liquid assets imply cash, deposits and money market instruments. The chart shows cumulative outflows in 2024, reported as a percentage of net assets in the same period. The size of the dot is proportionate to the fund size, while highlighted values denote the average of individual UCITS category. MMFs are not shown in the chart as liquid assetof almost all MMFs are equal to total assets.
Source: Hanfa

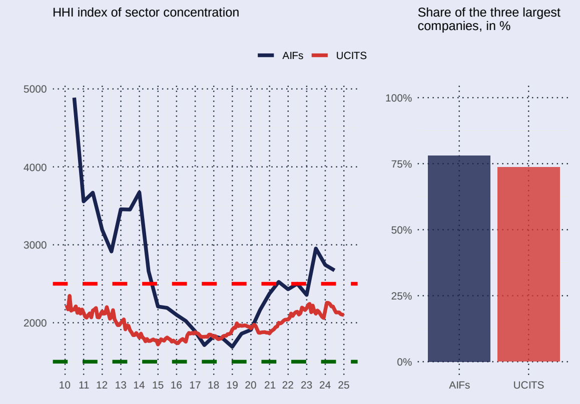
[64] The share of liquid assets in total assets of bond funds is 19.9%, while all assets of money market funds are liquid assets.

[65] Exit fees levied by target-date funds range between 3% and 5%.

Structural characteristics and risks

The concentration in the UCITS market decreased in 2024 thanks to the increased number and diversity of funds. The number of UCITS went up by eight and reached the number last seen in 2014 (117 at the end of 2024). The number of AIFs decreased by one in the first half of 2024 (to 44), despite a significant increase in their net assets. Market concentration decreased slightly from the end of 2023, but remained at very high levels. For example, at the end of 2024, the three largest companies managed 73.6% of AIFs net assets, while they managed as much as 78.1% of AIFs net assets at the end of June 2024. High management concentration poses a potential systemic risk, particularly in view of the potential emergence of herding behaviour among fund managers. In the event of sudden changes in the market, a high concentration may lead to similar behaviour by a large number of managers, putting pressure on the liquidity of funds and markets. Also, in a concentrated system, operating problems in a large company can spread quickly to the whole sector, further increasing its vulnerability.

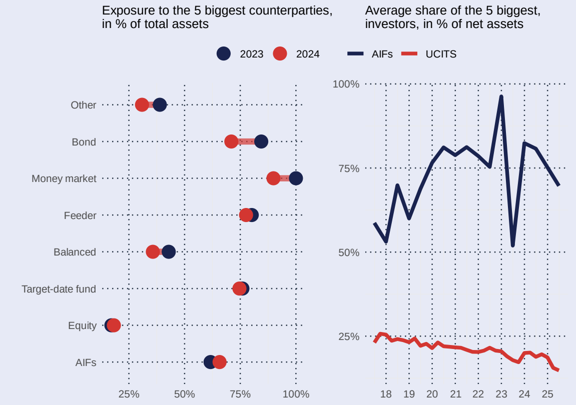
Figure 5.7 In 2024, the concentration of AIFs increased



Note: The share of the three largest companies refers to the end of 2024 for UCITS and end of the first half of 2024 for AIFs. According to the classification made by the US Department of Justice, markets with an HHI of less than 1,500 are considered competitive, while markets with an HHI exceeding 2,500 are considered highly concentrated. Concentration relating to funds is shown on the basis of the sector's structure by fund management companies.
Source: Hanfa

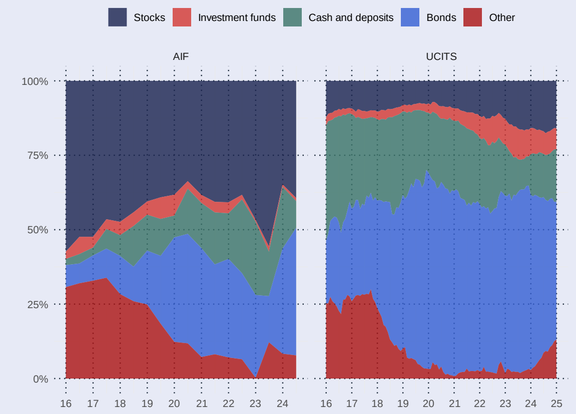
The downward trend in the investment concentration of investment funds continued in 2024, with the largest diversification being observed in money market and bond funds, traditionally characterised by a focus on a limited number of investments (Figure 5.8). In 2024, the share of bonds in total investments of UCITS decreased, partly due to the valuation effect, i.e. a more pronounced increase in the value of other investments (primarily stocks and units in investment funds), but also the active redirection of a part of assets into stocks, cash and money market instruments. Thus, the share of bonds in the total assets of UCITS reached 46.2% at the end of 2024. At the end of the year, investments in stocks and investment funds accounted for 23.0% of total investments of UCITS, while cash and deposits accounted for 17.7% of total investments, as a result of the growing importance of money market funds during the year (Figure 5.9). The decrease in exposure concentration has been under the positive influence of the years-long upward trend in cross-border exposure, which continued into 2024 and was mostly directed towards EU countries (Figure 5.10). Increased diversification of investments contributes to reducing the systemic risks of the investment fund sector and mitigates its vulnerability to price movements of individual asset types or issuers, thereby easing negative effects in the event of market shocks. Greater geographical diversification contributes to a reduction of domestic systemic vulnerability, thereby strengthening the resilience of funds to sudden changes in domestic market conditions. In addition, greater geographical diversification also reduces the probability of simultaneous reactions by a large number of funds and the spillover of risks to the rest of the domestic financial system.

Figure 5.8 Concentration of UCITS investments has been decreasing



Note: The chart shows the asset-weighted average share of the five biggest counterparties, that is, investors by individual segments of investment funds. The most recent data for AIFs refers to the end of June 2024 and for UCITS for the end of December 2024.
Source: Hanfa

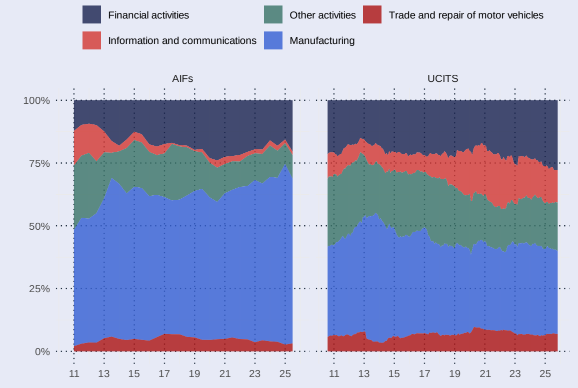
Figure 5.9 Share of bonds in the investment structure fell below 50% in 2024
Structure of investment funds' investments by type of instrument, in % of total assets



Source: Hanfa

The structure of the stock segment of the investment fund portfolio is dominated by manufacturing industry, which accounted for as much as 72.0% and 34.4% of equity investments of AIFs and UCITS at the end of 2024, respectively (Figure 5.10). Due to growing global trade uncertainty at the beginning of 2025, the strong export orientation of the manufacturing sector exposes the funds to increased risks, the materialisation of which could have a considerable indirect impact on net assets of exposed investment funds.

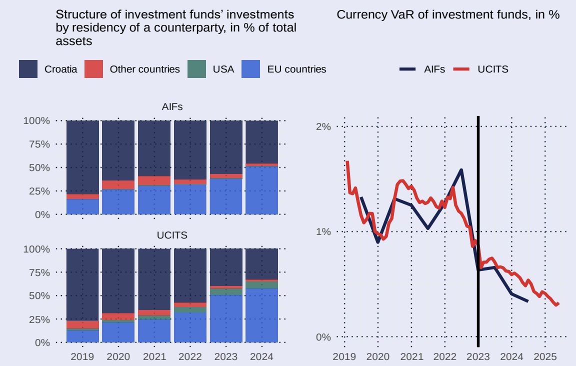
Figure 5.10 Within the equity portfolio, investment funds mostly invest in manufacturing activities
Structure of equity investments of investment funds by industry, in % of total assets



Source: Hanfa

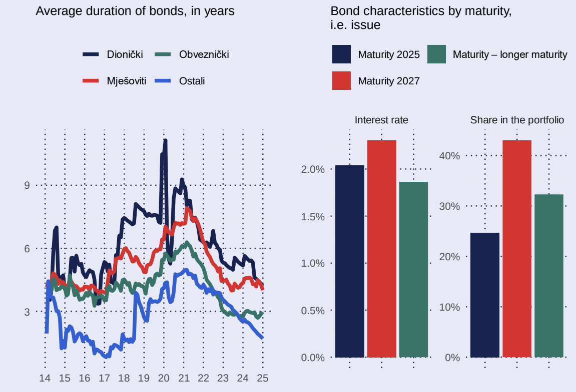
Investment funds' exposure to currency risk decreased further in 2024 and is currently at very low levels, with euro investments accounting for 86.9% of total UCITS investments at the end of 2024. Most of the currency risk is related to movements of the US dollar exchange rate, the exposure to which decreased by 1.6 pp in 2024. However, currency risk rose slightly towards the end of 2024 and in early 2025 due to the increased volatility of the US dollar against the euro following the US presidential elections (Figure 5.10). The period of increased volatility in international foreign exchange markets is likely to continue into 2025, depending on the market perception of the policies of the new US administration, which might slightly increase the currency risk of investment funds.

Figure 5.11 Exposure to currency risk has been significantly reduced after Croatia's accession to the euro area



Note: The most recent data for AIFs refers to the end of June 2024. The average currency VaR of the portfolio (Value at Risk) is the maximum loss of the portfolio in the observed period caused by exchange rate changes, with a confidence level of 95%. The chart shows the value at risk of individual currency exposures estimated on the basis of weekly returns over a two-year moving window. The vertical line denotes the date of Croatia's accession to the euro area.
Source: Hanfa

Figure 5.12 Amid rising interest rates, interest rate risk briefly increased, while refinancing risk decreased

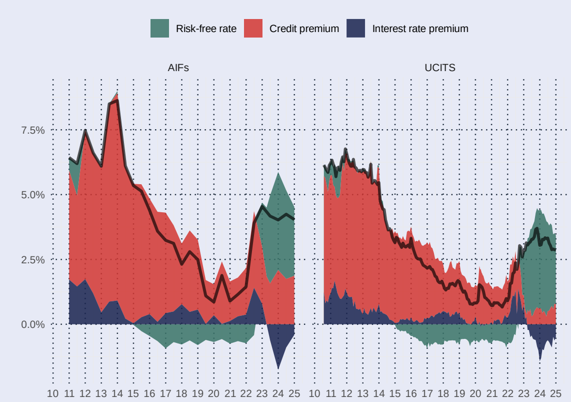


Note: The values shown on the right-hand side refer to end-2024 data. Maturity 2025 denotes bonds maturing by end-2025, Maturity 2027 denotes bonds maturing by end-2027, while Longer maturity denotes bonds maturing after 2027.
Source: Hanfa

Exposure to interest rate risk continued to decrease in 2024, primarily due to the smaller share of bonds and the reduction in their remaining maturity, standing at a moderate level at the end of the year. The average duration of the bond portfolio was 2.4 years at end-2024 (Figure 5.11). Bond funds kept their duration at the level of 3 years throughout 2024, while other categories of UCITS reduced their exposure to interest rate risk. The mentioned decrease is particularly important in the context of a very high monetary uncertainty at the beginning of 2025 due to growing investor concerns about the return of inflationary developments in 2025, as well as potential recession (more information in Chapter **3 Financial markets**). Should an unfavourable scenario of inflation growth in 2025 materialise, central banks could stop the cycle of interest rate cuts, with a negative effect on bond valuations, particularly for longer maturities.

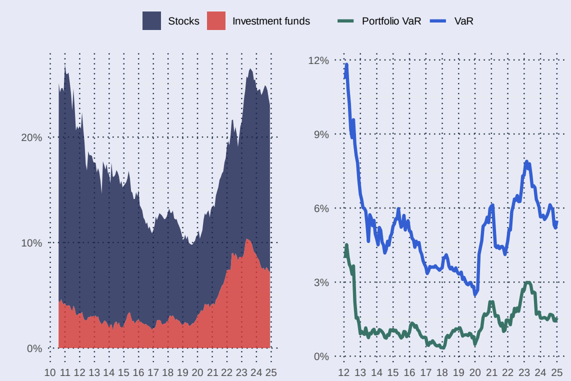
The exposure of funds to market risk was elevated at the end of 2024, primarily due to the subdued global risk premium and very high valuations, which are exposed to increasingly pronounced geopolitical and monetary uncertainties. The exposure of investment funds to market risks remained high despite a slight decline in riskier investment categories and subdued market volatility in 2024 (Figure 5.13). The structure of yield to maturity and the historically low risk premium at the end of 2024 point to the presence of market risks in the funds' bond portfolio (Figure 5.12). Uncertainties in financial markets related to the deterioration of geopolitical and trade relations have increased vulnerabilities in financial markets and the market risk of investment funds. Although the materialisation of this risk is becoming more pronounced, the increase in diversification in 2024 boosted the resilience of funds to sudden market shocks.

Figure 5.13 Risk premium remains at historical lows
Estimate of individual components of yield to maturity



Note: The black line shows the weighted yield to maturity on the bond portfolio of investment funds. The data for alternative investment funds are semi-annual.
Source: Eurostat, Hanfa

Figure 5.14. Exposure to market risks remained stable during 2024
Estimated loss on UCITS investment in stocks and investment funds under an adverse scenario with probability of materialisation of 5%, in % of assets



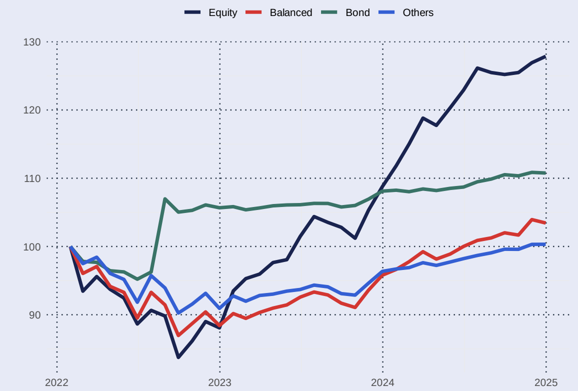
Note: The green line shows the estimated portfolio risk value, while the blue line shows the risk value of individual exposures estimated on the basis of weekly returns during a one-year moving window.
Source: Hanfa

Returns

Favourable market developments in 2024 had a positive impact on returns of all types of investment funds, which maintained the real value of investments and exceeded comparable investment categories. Equity funds were the most successful in 2024, with an annual return of 17.6%, which is above equity market returns such as the European index of the largest 200 companies (Figure 5.16). Balanced funds also performed well, with an annual return of 8.0% in 2024, while the positive performance of funds in 2024 was also supported by positive developments in the domestic stock and bond markets, reflected in the above-average growth of CROBEXtr and CROBIStr indices (more information in Chapter **3 Financial markets**). Bond funds recorded an annual return of 2.5%, which is above the average return on deposits and the national bond, but below the CROBIStr benchmark market index. Most funds in the domestic market managed to preserve the real value of investments in 2024, thanks to the further slowdown in inflation. Equity and balanced funds considerably exceeded the inflation rate, while bond funds again recorded low real returns.

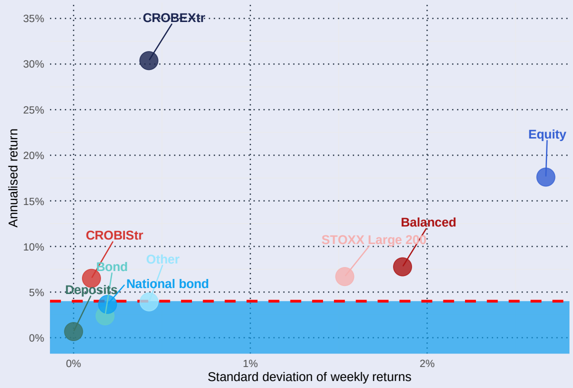
The favourable results from 2024 continued on the trend seen in the previous two years (Figure 5.14), which allowed for a full recovery of returns following a short-lived correction in 2022. The continuity of strong nominal and real returns also likely contributed to significant net payments to investment funds in 2024. Volatility indicators were relatively subdued in 2024. However, risks in the macroeconomic and financial environment accentuate profitability risks, with a likely high volatility at the beginning of 2025.

Figure 5.15 Profitability of investment funds continues to perform well, particularly in the category of equity funds
Value of the index of individual category of UCITS, 100 = 31 December 2021



Source: Hanfa

Figure 5.16 Almost all categories of UCITS maintained their real investment value in 2024

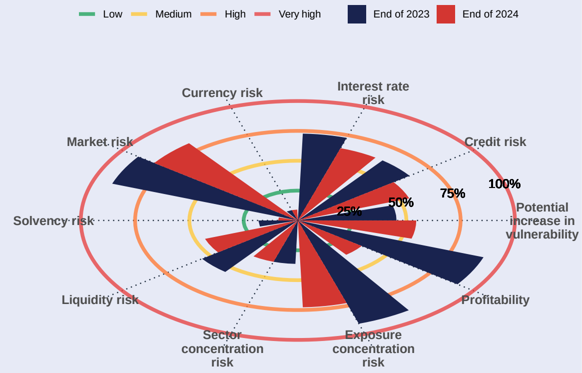


Note: The chart shows annualised returns in the period from the end of 2023 to the end of 2024. Returns on deposits indicate the average interest rate on balances of household deposits with a maturity over two years. The national bond indicates the national bond issued by the Ministry of Finance in March 2023. The horizontal red line indicates the inflation level in 2024.
Sources: Hanfa, CNB, Ministry of Finance

6 INSURANCE COMPANIES

Figure 6.1 Sector's systemic risks decreased in 2024

Systemic risk score for the insurance sector, in %



Source: Hanfa

The 9.9% growth in total premium collected at the end of 2024 was mostly driven by inflationary trends and record-high amounts of claims payments, which reached EUR 1.3bn in 2024, leading to an increase in insurance prices. The upgrading of Croatia's credit rating reduced insurers' exposure to credit and market risks. The convergence of domestic government bond yields to those of euro area countries prompted the diversification of insurance companies' portfolios in favour of stocks and bonds of other European countries. The positive developments in financial markets increased the profitability of insurance companies, which further raised capitalisation at the end of 2024 to the level of 232% of the solvency capital requirement.

Key cyclical trends

Despite a slowdown in overall inflation, the rise in premiums collected is still strongly affected by claims inflation. Total premium collected amounted to EUR 1.9bn in 2024, growing by 9.9% from 2023. In the non-life insurance segment, premium growth stood at 11.2% in 2024 (Figure 6.2). The largest contribution to this growth traditionally comes from compulsory car insurance, comprehensive car insurance and property insurance, which together accounted for 73.3% of the total non-life insurance premium collected in 2024. This premium grew steadily despite a slight increase in the number of contracted comprehensive car insurance policies and a drop in the number of compulsory car insurance policies, indicating a strong impact of claims inflation on the increase in insurance premium[66]. From the start of 2022 to the end of 2024, the average compulsory car insurance premium increased by as much as 29.5% (from EUR 187.4 to EUR 242.7), the average comprehensive car insurance premium rose by 26.6% (from EUR 482.7 to EUR 611.1), while the average property insurance premium (basic property insurance) went up 18.5% (from EUR 36.7 to EUR 43.3) (Figure 6.3). In the same period, the consumer price index rose by 16.5%, which confirms that prices in the

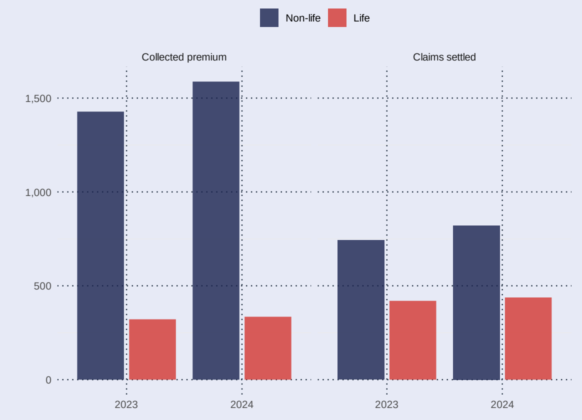
[66] In the course of 2024, comprehensive and compulsory car insurance premium grew by 14.4% and 12.9%, respectively, despite a slight increase in the number of comprehensive insurance policies, of 0.3%, and a drop in the number of compulsory car insurance policies, of 1.4% on an annual level.

insurance sector grew faster than prices in the entire economy.

Health insurance stands out from other types of non-life insurance, with a 17.0% increase in the premium, mostly as a result of the rise in the number of insurance policies (+14.8%). Premium for insurance against fire and natural disasters rose by 13.3% in 2024, partly due to the impact of inflation, but also due to the continued upward trend in the number of insurance policies (4.8%) driven by the growing risks of climate change and increased awareness of its negative consequences on policyholders' property (more information in **Box 1 Risk matrix: monitoring climate risks**).

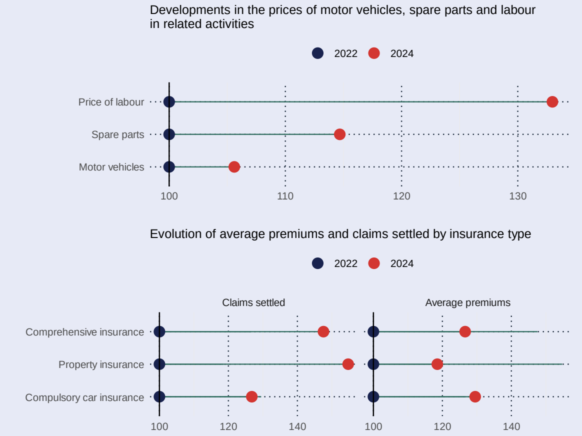
After a 15% drop in 2023, life insurance premium recovered in 2024. Despite a 0.8% decrease in the number of policies, insurance premium increased by 4.2% from 2023, primarily due to the strong increase in collected unit-linked insurance premium, of 23.0% (Figure 6.2), which amounted to 21% of total life insurance premium (an increase of 8 pp from 2023). The beginning of the interest rate-reduction cycle, combined with solid macroeconomic indicators and positive investor sentiment, has increased the attractiveness of this insurance line, allowing insurers also to have an investment component. The growing significance of unit-linked products changes the nature of insurers' exposure to systemic risks, even increasing it in some segments. Namely, direct links of these products to financial markets and greater sensitivity to market fluctuations and potential liquidity pressures add to insurers' systemic risks. While traditional life insurance maintains structural stability through guarantees and a relatively conservative investment strategy, unit-linked products do not have in place safeguards to hedge against adverse movements on financial markets. As a result, such products increase the possibility of systemic risks materialisation through market contagion channels and potential pro-cyclical behaviour of policyholders.

Figure 6.2 Increase in premium collected is the result of claims inflation
Collected insurance premium and claims settled, in EUR million



Source:Hanfa

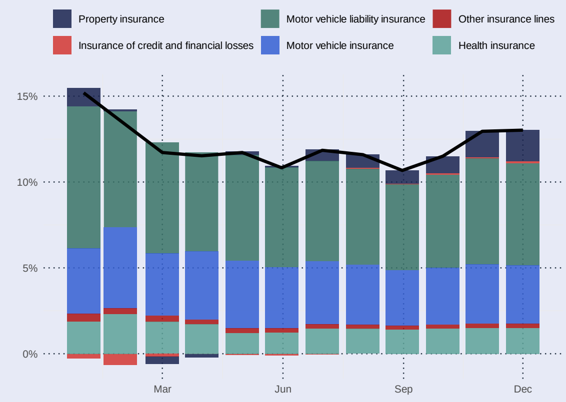
Figure 6.3 Inflation strongly affects the growth of premiums and claims



Sources: Hanfa and Eurostat

On the other hand, premium collected in the traditional life insurance segment levelled off from last year, which, after a fall of 20% in 2023, may be considered as a continuation of the several-year period of reduced demand for this type of life insurance. As a result of the above developments, life insurance accounts for only 17.4% of total insurance premium, while the growing European average is a high 55.6%; this implies another widening of the gap and confirms the need to further enhance awareness of the importance and benefits of life insurance.

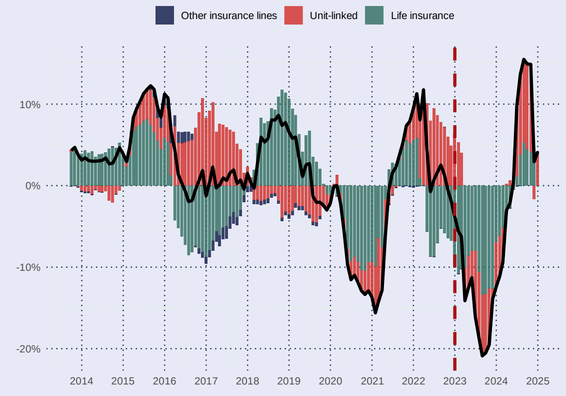
Figure 6.4 Vehicle segment is the main contributor to the rise in non-life insurance premium
Annual change in collected non-life insurance premium in 2024, in %



Source: Hanfa

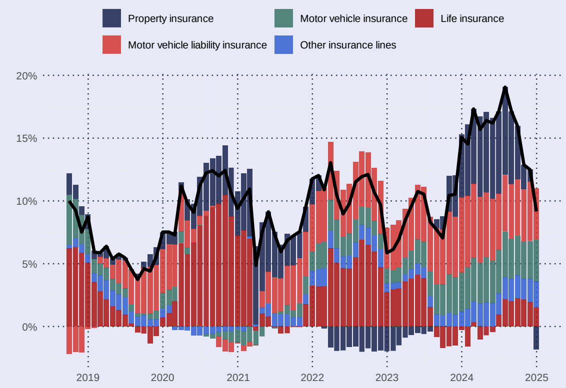
The strong growth in settled claims continued in 2024, particularly in the non-life insurance segment. Claims settled amounted to EUR 1.3bn in 2024, an increase of 8.2% from the year before. This was a record amount of claims settled, and twice as high as in 2016 when the Solvency II framework was introduced. The sharpest growth was recorded in the non-life insurance segment, with an increase of 10.5% in settled claims in 2024. This was strongly impacted by inflation, especially in vehicle insurance, as evident in rising prices for vehicle repairs and spare parts.[67] The sharpest increase in claims settled in 2024 was seen in health insurance (+28.5%), which is a direct consequence of the significant increase in the number of insured persons. The growth in claims was more modest in the life insurance segment (+4.2%), but with a sharp growth in unit-linked contracts (+18.5%), while traditional life insurance claims rose by 2.5%, largely due to regular expiry of contracts (Figure 6.6).

Figure 6.5 Growth in total life insurance premium collected in 2024
Annual change in collected life insurance premium, in %



Note: The red vertical line denotes the end of reporting on gross written premium and the beginning of reporting on collected premium.
Source: Hanfa

Figure 6.6 Growth in payments of claims in 2024 driven by the non-life insurance segment
Annual change in payment of claims, in %



Source: Hanfa

Structural characteristics and risks

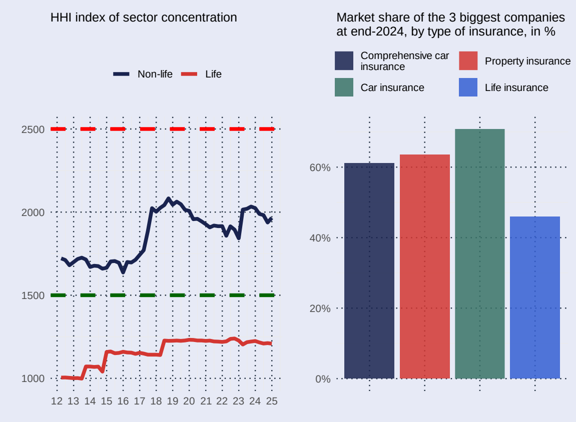
The sector remained competitive in 2024, but with a high concentration in the predominant types of non-life insurance. The number of companies did not change in 2024[68], while market concentration decreased slightly in both segments, with the non-life insurance segment remaining more concentrated than the life insurance segment (Figure

[67] Claims settled in the segment of motor vehicle liability insurance grew annually by 15.3%, while the comprehensive car insurance segment saw a rise of 18.6%.

[68] There were 14 insurance companies operating in Croatia at the end of 2024: two companies dealing with life insurance only, four companies dealing with non-life insurance only and eight composite insurance companies.

6.7). Concentration was most prominent in the largest segments of compulsory and comprehensive car insurance, and property insurance, where the three biggest companies accounted for more than 60% of total premium collected in 2024. Although slightly lower than in the previous year, market concentration remained high [69] in these segments, which may, in the event of operational difficulties in one of the leading companies, result in the risk spillover to the overall market.

Figure 6.7 Sector concentration remains moderate



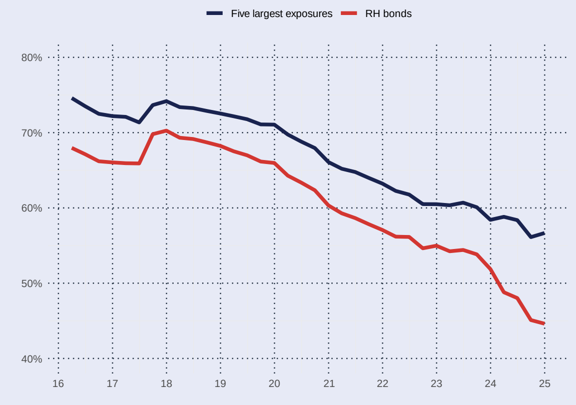
Note: According to the classification made by the US Department of Justice, markets with an HHI of less than 1,500 are considered competitive, while markets with an HHI exceeding 2,500 are considered highly concentrated. IFRS 17, a new accounting standard,came into effect at the beginning of 2023.
Source: Hanfa

Diversification of the insurance companies' investment portfolio continued in 2024, with an increase in cross-border exposures and a growing share of stocks and corporate bonds, pointing to the expansion of investment activities and adjustment to market conditions. At the end of 2024, government bonds accounted for the largest share in total investments (45.7%), although their share fell by 4.7% from the previous year. At the same time, total investments in debt instruments were cut by only 0.8%, thanks to a significant increase in investments in corporate bonds (+39.0%), which accounted for 6.7% of total investment at the end of 2024 (growth of 1.7 pp). Equity investments grew sharply (+21.1%), reaching 13.8% of total investments at the end of 2024 (Figure 6.9). This was the continuation of the years-long process of portfolio diversification from government bonds to alternative asset types, also present in other institutional investors (more information in chapters **4 Pension funds** and **5 Investment funds**), spurred by the convergence of Croatian government bond yields towards the euro area average. While this has brought investment concentration closer to the EU average, there are still significant differences. The share of government bonds in total investment, though decreasing over the year, remained significantly higher than the European average (19.2%) at the end of 2024. On the other hand, the share of corporate bonds is significantly lower than the EU average (17.6%), which is also true for investments in investment funds; they remained at 10% of investments in 2024, while in the EU their share exceeds 35% of total investments. The larger share of corporate bonds and stocks in an environment of subdued risk premia and positive developments in financial markets (more information in Chapter **3 Financial markets**) improves yields, while at the same time increasing corporate exposure

[69] At the end of 2024, the three biggest companies accounted for 70.8%, 61.1% and 63.5%, respectively, of total premium collected in the segments of compulsory motor vehicle liability insurance, comprehensive car insurance and property insurance. In the life insurance segment, the three biggest companies accounted for 45.9% of life insurance premium collected. These four types of insurance together accounted for as much as 73.3% of total collected premium of the sector.

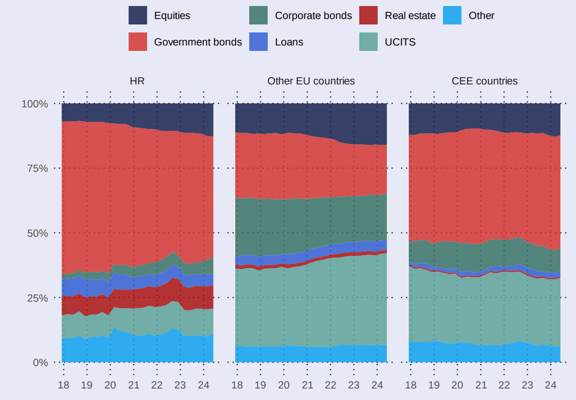
to market risks. Should the market risk premium suddenly increase, possible price corrections for those instruments would adversely affect the value of insurers' portfolios and, consequently, their capital position.

Figure 6.8 Reduction of exposure concentration risk, particularly in the government bond segment
Share of the 5 biggest counterparties, in % of total investment



Source: Hanfa

Figure 6.9 Interest rate decrease led to a drop in investments in government bonds and an increase in equity investments in 2024
Investment structure of insurance companies, in %

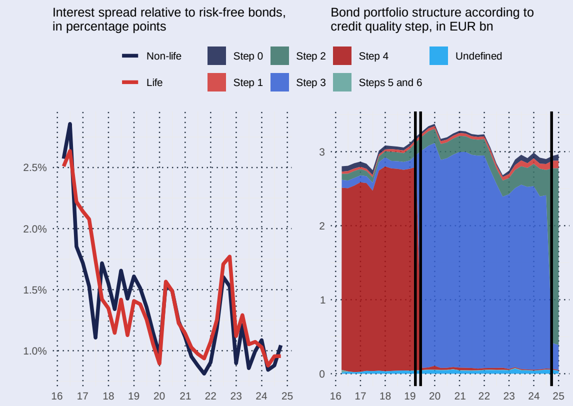


Source: EIOPA

Real estate investments shrank to 8.2% in 2024. Although not the dominant investment class, their share is still larger in Croatia than the euro area average, where real estate companies invest indirectly through real estate funds. Direct exposure of domestic corporations to the real estate market increases their exposure to cyclical risks, while illiquidity of that asset class may additionally increase vulnerability in the event of market disturbances or systemic shocks.

A reduction in interest rates has had a positive impact on the liquidity of insurance companies, which remained at a high level in 2024. Liquid assets accounted for 61.9% of total assets of insurance companies at the end of 2024 (Figure 6.13). As the domestic insurance sector is largely exposed to bonds (whose value moves inversely to interest rates), the lowering of benchmark interest rates has a positive impact on the values of liquid assets of insurance companies. In addition, lower interest rates reduce the potential for early termination and redemption of life insurance policies. At the same time, the demand for new policies, which have become more attractive to policyholders, is on the rise, as they bring higher returns than competitive types of investments. As a result, the premium inflow is growing, which mitigates risks and pressures on insurance companies' liquidity.

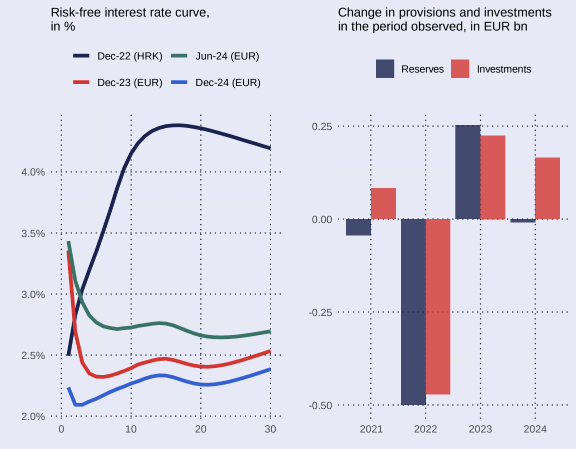
Figure 6.10 Credit risk premium returns to very low levels



Note: The charts shows the yield-to-maturity spread of the bond portfolio of insurance companies relative to yields on the highest rated euro area bonds of the same maturity. The vertical lines indicate the dates when credit rating agencies Fitch and S&P upgraded their credit ratings on RH bonds.
Sources: Bloomberg, Eurostat, Hanfa

The upgrading of Croatia's credit rating in 2024 further reduced credit risk exposure of insurance companies, to a moderate level at the end of 2024. In 2024, the credit quality of insurance companies' bond portfolio improved (Figure 6.10), with the highest quality bonds (CQS 0, 1 and 2) reaching 16.9% at the end of June 2024, growing by 3.2 pp on an annual basis. At the same time, the share of CQS 3-class bonds, which at the time included Croatian government bonds, fell to 80.6%, a decrease of 3.8 pp. The upgrading of Croatia's credit rating [70] significantly improved credit risk exposure indicators. As a result, at the end of 2024, as much as 80.5% of the portfolio was accounted for by bonds with CQS 2. These developments contributed to the fall in credit risk exposure, which stood at a moderate level at the end of the year, positively affecting the resilience of the insurance sector and reducing potential systemic risks associated with credit quality deterioration or negative market shocks.

Figure 6.11 Stabilisation of the interest rate cycle continued in 2024



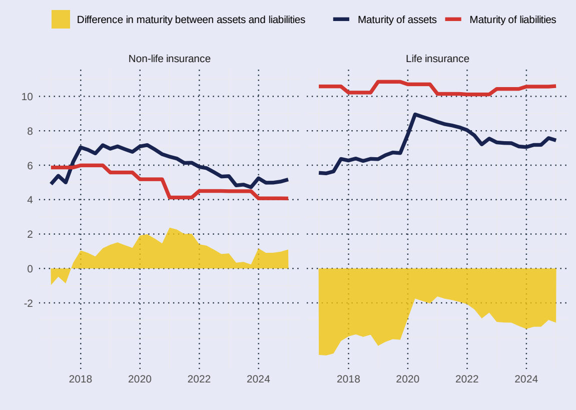
Sources: EIOPA, Hanfa

The stabilisation of interest rates contributed to the reduction of interest rate risk in 2024. The balance sheet of insurance companies depends significantly on the evolution of interest rates, as changes in interest rates affect the value of their assets and liabilities at the same time, while the difference in their maturity determines the direction of changes in the value of a company' capital. The cycle of declining central bank interest rates started in 2024 (more information in Chapter **3 Financial markets**); this affected the evolution of the risk-free interest rate used by companies to discount their liabilities (Figure 6.11), which was at very low levels at the end of 2024. Given that assets have a relatively longer maturity than liabilities, this had a positive impact on insurance companies' balance sheets in 2024, as the increase in the value of total investments exceeded the growth in reserves (Figure 6.11), which was particularly pronounced in the segment of non-life insurance. On the other hand, the fall in interest rates prompted companies to speed up reinvestment processes, while aiming to lengthen the maturity of investments in order to generate relatively higher returns in the future and thus reduce interest rate risk in the medium term. This mostly refers to life insurance companies, which are significantly more exposed to interest rate risk due to the longer maturity of their liabilities and a larger mismatch between assets and liabilities. At the end of 2024, the average maturity of life insurance companies' assets was 7.4 years (at the beginning of 2024 it was 7.1 years) (Figure 6.12). Interest rate risk of insurance companies decreased throughout the year, coming to a moderate level at the end of 2024. However, this risk remains one of the key structural risks of insurers,

[70] In September 2024, S&P Global Ratings and Fitch upgraded their credit ratings on Croatian government bonds from BBB+ to A–, mapping Croatian government bonds to CQS 2 (credit quality step), which, together with CQS 0 and CQS 1, is the highest credit quality step.

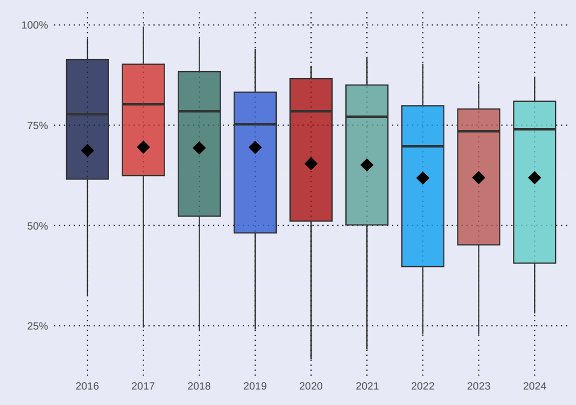
particularly in the context of the recent increase in uncertainty in financial markets and the emergence of unforeseen shocks that were initially not reflected in the level and direction of interest rates, but have significantly exacerbated monetary uncertainty and, consequently, the outlook for interest rate risk growth in 2025.

Figure 6.12 Insurance sector exposure to interest rate risk decreases in proportion to the decrease in maturity mismatch in the balance sheet
Indicators of residual maturity of assets and liabilities of insurance companies, in years



Note: The chart shows the maturity of asset items with defined maturity (bonds, loans and structured securities).
Source: Hanfa

Figure 6.13 Fall in interest rates had a slight impact on the growth in the share of liquid assets
Liquid assets to total assets ratio, in %

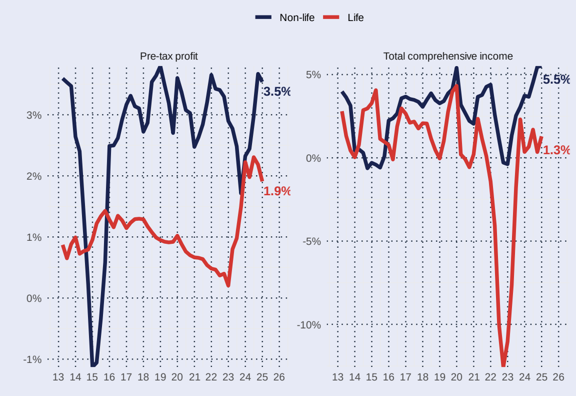


Note: The dot indicates the indicator value for the entire system.
Source: Hanfa

Profitability and capitalisation

Favourable macroeconomic conditions and positive developments in financial markets improved the profitability of insurance companies in 2024. The main contribution to the growth in insurers' profits in 2024 came from an increase in revenues from insurance contracts, which were 12.6% higher than in the previous year. In addition, net investment results went up 14.8%, leading to a 17.4% increase in operating income in 2024. Return on average assets in the non-life insurance segment was 3.5% and in the life insurance segment it was 1.9% in 2024[71] (Figure 6.14). Positive valuations of financial assets resulted in significant growth in other comprehensive income, contributing to an annual increase of almost 40% in total comprehensive income of companies. As a result, the profitability of insurance companies measured in terms of comprehensive income was 5.5% in the non-life insurance segment (+1.7 pp), while life insurance companies had a profit of 1.3% (+ 1 pp), which was a significant increase from 2023.

Figure 6.14 Increase in financial asset valuations gave a boost to comprehensive income
Return on average assets, in %



Note: Numerical values show the value of profitability indicators of insurance companies at the end of 2024.
Source: Hanfa

At the end of 2024, the capitalisation of insurance companies was slightly higher as their own funds grew faster than the solvency capital requirement. The annual growth of the solvency capital

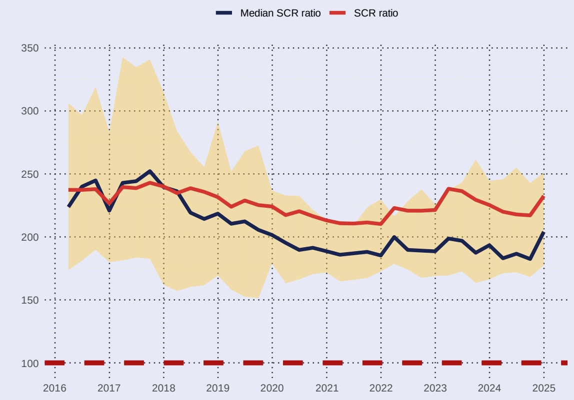
[71] A rise of 1.2 percentage points and a drop of 0.3 percentage points, respectively, on an annual basis.

requirement was 5.2% at the end of 2024, mainly due to changes in companies' investment portfolios, primarily the growth of equity investments that increase the capital requirement for market risk. At the same time, own funds rose by 8.1%, leading to a rise in the market SCR ratio to 232% at the end of 2024 (Figure 6.15), up by 6.2 pp from the end of 2023.

Market risks and underwriting risk of insurance companies together account for more than 80% of the total capital requirement, with market risks being the largest source of potential instability at the beginning of 2025. While severe market shocks were avoided in 2024, geopolitical tensions combined with a still very low risk premium pose a threat to companies' operations. The profits made in 2024 contributed to further strengthening of insurers' capital reserves and enhanced their resilience, which is a necessary precondition for the stability of the whole sector.

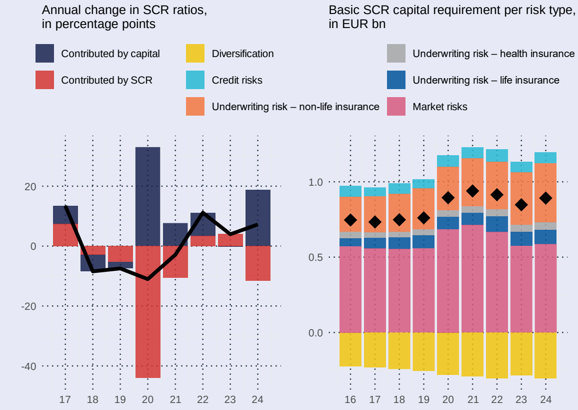
Figure 6.15 Solvency of insurance companies remains high

Total and median SCR ratio, in %



Note: The highlighted area indicates the interquartile range of SCR ratios by company.
Source: Hanfa

Figure 6.16 Stabilisation of the interest rate cycle led to a rise in capitalisation indicators in 2024

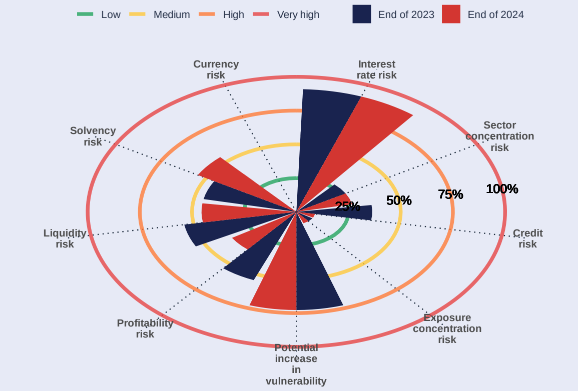


Note: The highlighted mark on the right-hand side indicates the net value of the basic SCR capital requirement.
Source: Hanfa

7 LEASING COMPANIES

Figure 7.1 Interest rate risk still represents the largest risk for leasing companies

Systemic risk score for the leasing companies sector, in %



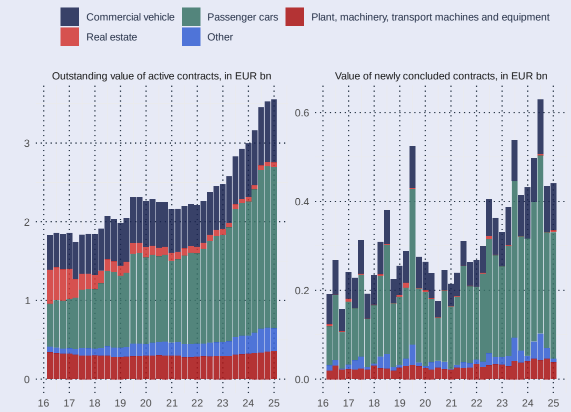
Source: Hanfa

The years-long growth of leasing companies' business operations continued in 2024. Favourable macroeconomic developments and rising prices of leased assets spurred the increase in both the number and value of newly concluded contracts, which in 2024 again mostly referred to leasing of passenger cars. This helped to keep credit risks at low levels. Although the several year reduction in the net interest margin came to a halt in 2024, interest rate risks remained elevated, particularly in the conditions of a possible longer maintenance of interest rates at elevated levels.

Key cyclical trends

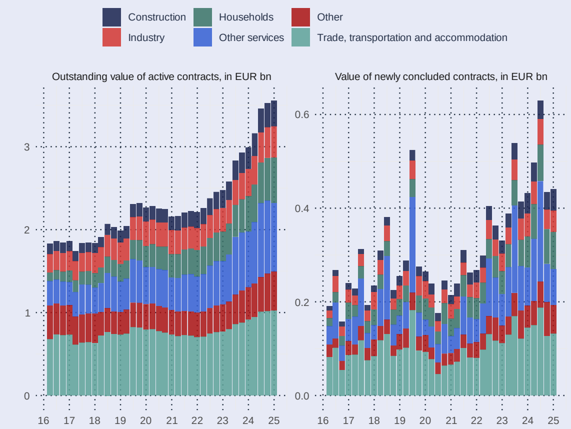
Strong domestic economic growth and increased lending activity also had a positive impact on the leasing companies' operations in 2024. Total assets of leasing companies rose by 17.4% in 2024, to EUR 4.1bn. The number of active leasing contracts reached a total of 182.5 thousand at the end of 2024, 5.1% more than a year earlier and a record high in the last ten years. Inflationary pressures and rising prices of leased assets added to the value of active contracts, which stood at EUR 3.6bn at end-2024 (growing annually by 18.8%), also the highest level in the last ten years (Figure 7.3).

Figure 7.2 Vehicles continue to account for the bulk of newly concluded and active contracts



Source: Hanfa

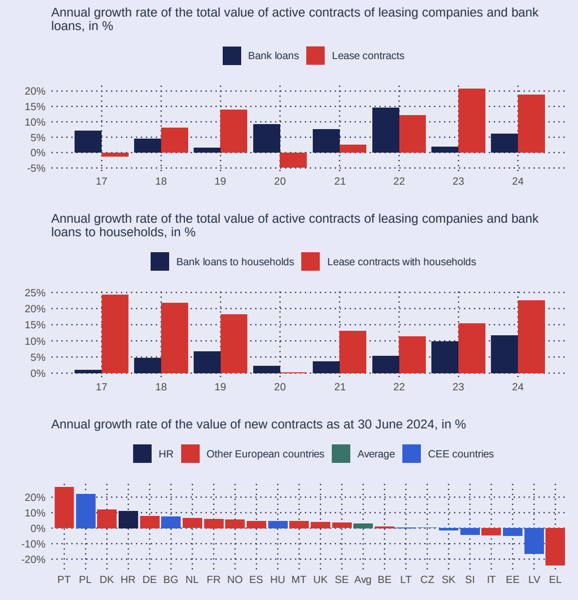
Figure 7.3 Increase in the share of contracts concluded with households



Source: Hanfa

The bulk of this growth was due to finance lease, which accounted for as much as 86.5% of the total value of active contracts at the end of 2024. The increase in the share of finance lease over the past decade has had a positive effect on the length of maturities and amounts of contracts[72], boosting the liquidity of the leasing companies' business. The number of new contracts was 9% higher at the end of 2024 than at the end of 2023, while their value increased by 2.7%. Although slower than in 2023, when it came to 55.3%, the growth in new contracts is still significant and reflects strong lending activity of household and non-financial corporate sectors, which remained at elevated levels in 2024 (more information in Chapter **2 Macroeconomic environment**).

Figure 7.4 Value of lease contracts grows faster than the value of bank loans, especially in the household sector, and faster than the EU average



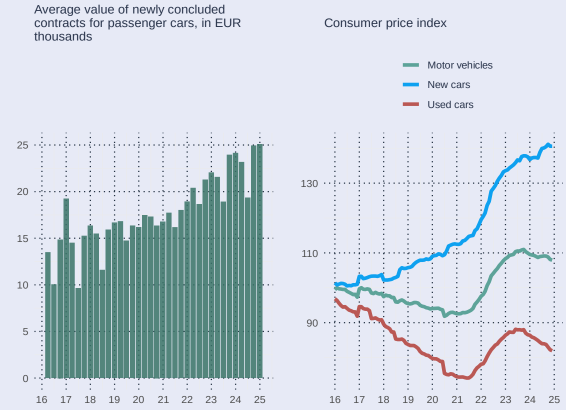
Sources: Hanfa, CNB, LeasEurope

In 2024, the strongest growth in newly concluded contracts was seen in the household sector (+33.8%), accounting for 22.1% of the total number of newly concluded contracts in 2024, while tourism-related activities (trade, transportation and accommodation) recorded a fall (of –3.2%). Compared with companies, individuals usually conclude a larger number of small-value contracts, which also adds to the overall increase in the number of new contracts. The growth was also driven by the increase in the prices of new passenger cars (Figure 7.5), the financing of which accounted for the bulk of new contracts (64.2%). Compared to other European countries (Figure 7.4), the domestic leasing market is growing faster than the European average. Although some of this growth may be attributed to higher inflation, the fact that some countries with higher inflation rates have recorded slower growth implies that the rise in leasing contracts in Croatia is largely spurred by growing demand.

Current developments suggest that the ongoing significant expansion in the leasing sector is primarily driven by an increase in finance lease contracts with households. The continued high and growing concentration of new contracts on the segment of passenger cars and reliance on very strong credit activity in the household sector may increase the sector's credit risk in the event of unfavourable macroeconomic changes (e.g. unemployment growth, slump in consumption or vehicle price corrections). In addition, continued financing at relatively high interest rates, coupled with the tightening of banks' credit standards (more information in Chapter **2 Macroeconomic environment**) further exacerbates the vulnerability of the corporate leasing portfolio, with a possible transfer of some contracts from the banking system, which would provide an additional boost to new contracts in the forthcoming period and potentially add to cyclical systemic risks of the sector.

[72] Operating lease is used more as a form of short-term rental, where users seek to reconcile the maturity of leasing contracts with the expected use period of leased assets, while finance lease is used as a form of lending, which is why contracts often have relatively longer maturities.

Figure 7.5 Growth in the prices of motor vehicles has slowed down but still adds to the rise in the value of newly concluded contracts

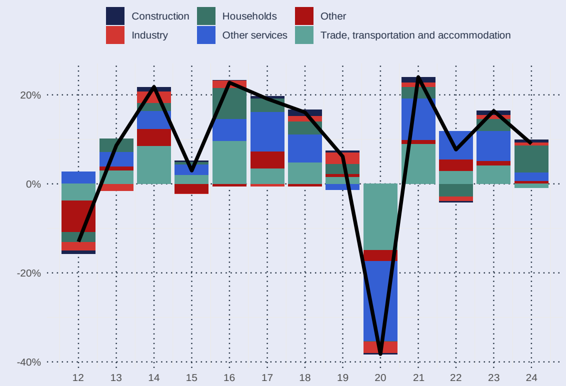


Sources: Hanfa, Eurostat

Structural characteristics and risks

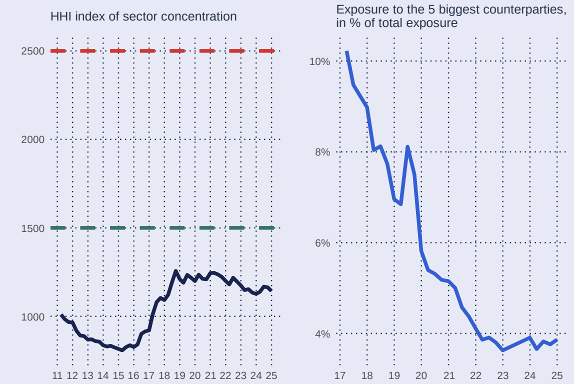
The concentration of the leasing sector remained low in 2024, thanks to relatively stable market conditions and an unchanged number of leasing companies. The exposure of leasing companies to individual lessees edged up, but remained at very low levels; at the end of September 2024 the five biggest clients accounted for 3.8% of total exposure (Figure 7.7). Even though the portfolio of leasing companies is not highly concentrated by individual lessee companies, their operations are predominantly focused on financing passenger and commercial vehicles, which accounted for as much as 80.3% of the companies' active leasing contracts at the end of 2024.

Figure 7.6 Growth of newly concluded contracts has slowed down
Annual rate of change in the number of new contracts and contributions of individual activities, in %



Source: Hanfa

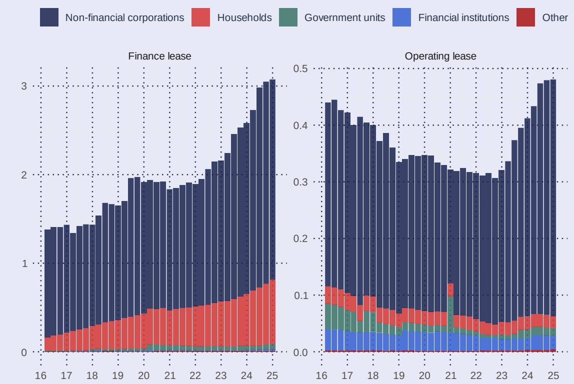
Figure 7.7 Sector concentration and exposure of leasing companies remain at low levels



Note: According to the classification made by the US Department of Justice, markets with an HHI of less than 1,500 are considered competitive, while markets with an HHI exceeding 2,500 are considered highly concentrated. Concentration, relating to funds is shown on the basis of the sector's structure by fund management companies.
Source: Hanfa

The sale of vehicles and the possibility of their repayment are highly dependent on economic activity. Although the domestic economy saw above-average growth in 2024, it may be noticeably affected by the signs of a slowdown in the main trading partners (more information in Chapter **2 Macroeconomic environment**). A slump in foreign demand for domestic services would also affect the activity of leasing companies, as around 30% of the value of these contracts is accounted for by tourism-related activities.

Figure 7.8 Leasing companies are mostly exposed to the sector of non-financial corporations
Structure of active contracts by sector and leasing type, in EUR bn

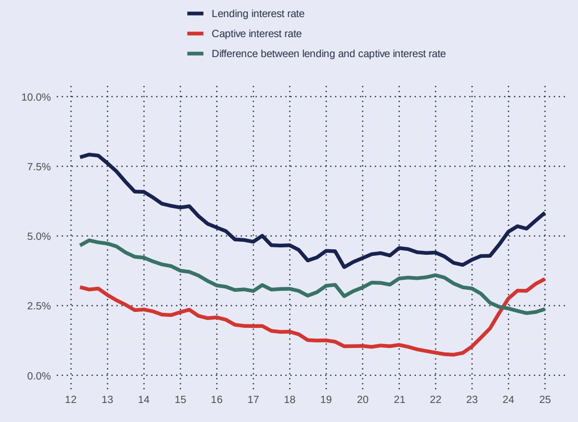


Source: Hanfa

Interest rate and interest rate-induced credit risks are still the most prominent risks to which leasing companies are exposed given the mismatched interest rate and maturity structure of their balance sheets. While the deterioration of these risks slowed in 2024, the previous period of growth in benchmark interest rates pushed up the financing costs of leasing companies (Figure 7.9). In mid-2024, the spread between the implicit lending rate and the captive interest rate narrowed to 2.2%, the lowest value in the past ten years. By the end of 2024 it recovered slightly, to around 2.4%, but remained very low. As most contracts are concluded at fixed interest rates, leasing companies can maintain the existing margin only by concluding new contracts at higher interest rates, which would raise interest rate-induced credit risk, or by reducing the cost of financing. In this context, a possible economic slowdown paired with the maintenance of elevated interest rates would increase the sector's vulnerability.

Figure 7.9 Tighter financing conditions lead to higher interest expenses

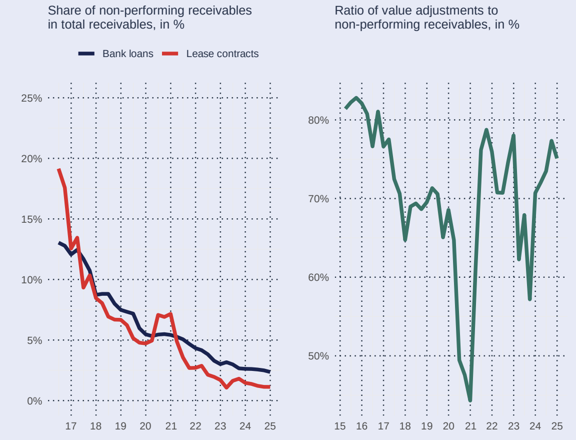
Implicit interest rates on interest-bearing assets and liabilities, in %



Source: Hanfa

Credit risk exposure of leasing companies was further reduced in 2024 due to the relatively favourable macroeconomic conditions and strong growth in the volume of new business. Non-performing receivables stood at 1.1% of total receivables at the end of 2024, down by 0.4 pp from the end of 2023 (Figure 7.9), while the coverage of non-performing placements grew by 4.4 pp, to 75.1% at end-2024. The improvement in credit quality was achieved amid a sharp increase in new contracts and a very favourable credit environment in the real sector, as reflected in the historically low levels of credit risk indicators on banks' balance sheets. Even though credit risk of leasing companies is currently at its lowest level ever, it remains one of the key sources of risk to their business. Previous crisis episodes have shown that a deterioration in the real sector, although with some delay, may strongly affect the credit risk faced by lending institutions. It is therefore very important that leasing companies maintain an adequate level of capitalisation to withstand possible adverse shocks in the future.

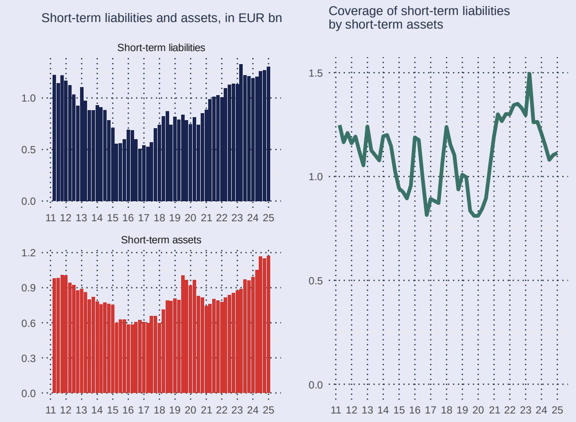
Figure 7.10 Credit risk decreased further in 2024



Source: Hanfa

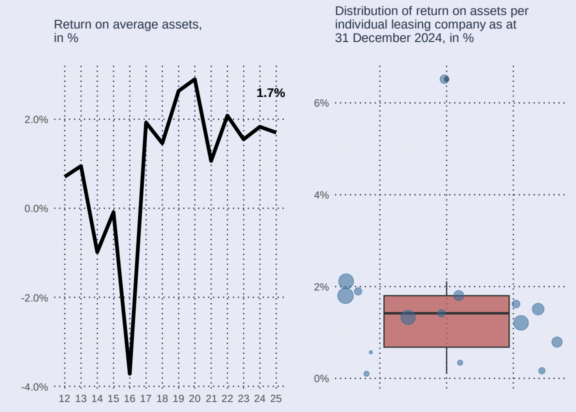
Though decreasing, the liquidity of leasing companies remained at satisfactory levels in 2024. In contrast to 2022 and 2023, when the ratio of short-term assets to short-term liabilities levelled off, the increase in the value of new contracts in 2024 led to a decline in the coverage of short-term liabilities, of 7.8 pp, mainly owing to the rise in short-term liabilities. However, the coverage of liabilities by short-term assets remained relatively high, over 1, which is why leasing companies are not exposed to significant liquidity risk.

Figure 7.11 Notwithstanding their liquidity risk exposure, liquidity of leasing companies remains preserved



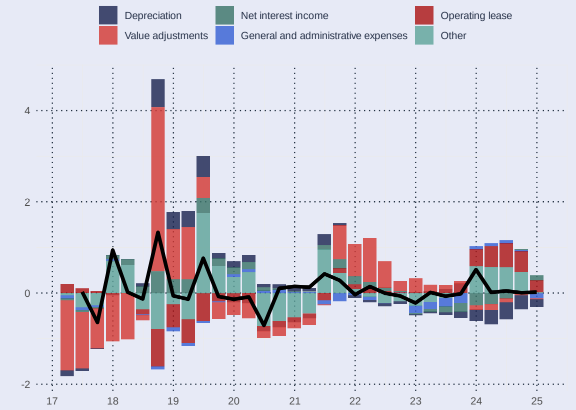
Source: Hanfa

Figure 7.12 Profitability of leasing companies has been low but relatively stable in recent years despite rising interest rates



Note: The size of dots indicates the relative asset size of individual leasing companies.
Source: Hanfa

Figure 7.13 Profitability of leasing companies was broadly stable in 2024
Contributions of profit items, in percentage points



Source: Hanfa

Profitability and capitalisation

Strong balance sheet growth and the reduced net interest margin had a negative impact on the profitability of leasing companies, which decreased slightly in 2024 in relative terms. The return on leasing companies' assets was reduced by 0.1 pp in 2024, to 1.7%, with smaller companies showing relatively weaker performance in 2024 (Figure 7.12). This was mainly due to interest income, the growth of which did not compensate for the rise in interest expenses in 2024. On the other hand, operating lease revenues contributed positively to profitability in 2024, mainly due to the increased acquisition value of vehicles[73]. Maintaining sufficient profitability in a context of historically low value adjustment costs and narrow interest margins is particularly important for smaller and potentially more vulnerable companies, whose shock absorption capacity may be diminished in case of systemic risk materialisation.

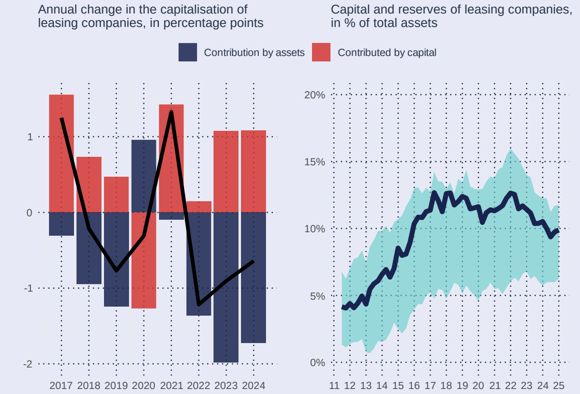
The capitalisation of leasing companies, measured as the share of capital and reserves in total assets, was slightly reduced in 2024. In particular, while capital and reserves increased by 20.7% in 2024, the parallel strong growth in leasing companies' assets of 39.5% deteriorated the capitalisation indicator (Figure 7.14). As a result, the capitalisation of leasing companies stood at 9.9% at the end of 2024, 0.6 pp less than at the end of 2023. This was still above the European average[74], which stood at around 7.3% in the third quarter of 2024. Sufficient capital reserves are essential for the resilience of

[73] Other income also contributed significantly to profit. The bulk of other revenue/expenditure is accounted for by the sale of assets under operating lease contracts (40.4% of gross profit from balance sheet items in the category "other"), which is thus also directly linked to operating leases.

[74] According to the data available at Leaseurope website.

leasing companies, especially in the event of the materialisation of pronounced systemic risks in early 2025, associated with a possible slowdown in global economic activity and maintenance of interest rates at elevated levels. In the second step, such circumstances may lead to an increase in credit risk and a greater pressure on leasing companies' balance sheets.

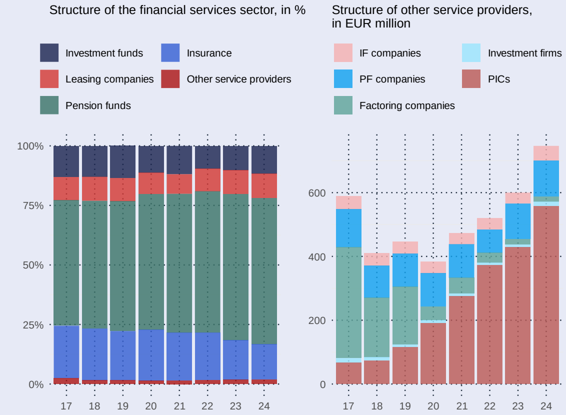
Figure 7.14 Capitalisation of leasing companies dropped due to the increase in assets



Note: The highlighted line on the left-hand side indicates the percentage change in capitalisation. The marked area on the right-hand side indicates the interquartile range of the ratio of capital and reserves to assets per company.
Source: Hanfa

8 OTHER FINANCIAL SERVICE PROVIDERS

Figure 8.1 Assets of other financial service providers continue to account for less than 2% of total assets of the financial services sector at the end of 2024



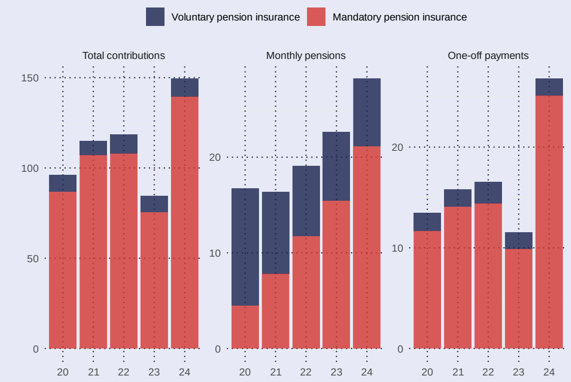
Source: Hanfa

The structure of the financial services sector remained relatively unchanged in 2024, with a still pronounced predominance of institutional investors, i.e. pension and investment funds and insurance companies (Figure 8.1). While accounting for only 1.9% of total sector assets, other financial service providers – such as factoring companies, pension insurance companies, pension companies and investment firms and management companies – are essential for the stable functioning of the financial system. Their stability is particularly important in the context of heightened market uncertainties and rising systemic risks at the beginning of 2025.

Key cyclical trends

Though accounting for only 0.3% of the assets of the financial services sector, pension fund management companies manage the assets of pension funds, which were worth EUR 24.7bn, or 61.3% of total sector assets at the end of 2024. Assets of two pension insurance companies responsible for the payout of pensions based on individual capitalised savings stood at EUR 557.5m at the end of 2024. Investment firms, accounting for only 0.03% of the sector's assets, are important intermediaries in the capital market and participate in slightly more than half of all transactions in the domestic capital market. In addition to these, 24 investment fund management companies and three factoring companies are also important in the structure of other financial service providers as they perform specific and irreplaceable functions in the domestic financial system.[75]

Figure 8.2 Legislative amendments increased the attractiveness of combined pensions in 2024
Value of contributions received and payments, in EUR million



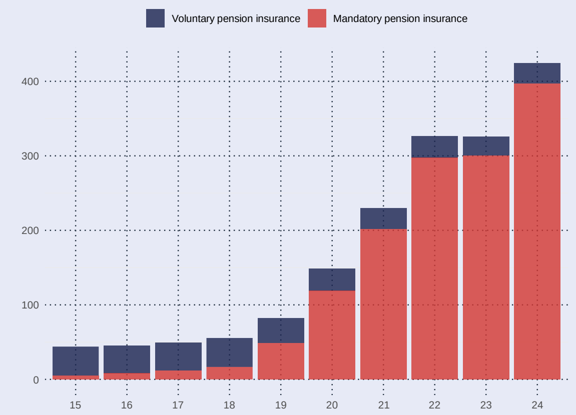
Note: The chart shows the values of contributions and payments in the observed reporting period.
Source: Hanfa

The growing systemic importance of pension insurance companies stems from their key role in the disbursement of pensions based on individual capitalised

[75] More information on the role of particular categories of financial service providers can be found at **Hanfa's website for consumers**.

savings. Their importance will continue to grow in the coming period as the pension system moves from the accumulation phase to the payout phase. In 2024, payments to pension insurance companies grew strongly (Figure 8.2), mainly due to the larger number of beneficiaries choosing a combined pension from both the 1st and the 2nd pillar[76]. This trend is driven by better fund returns in recent years (more information in Chapter **4 Pension funds**) as well as legislative amendments made in 2024 that allow for higher supplements[77] and more flexible disbursement arrangements, such as an increase in the maximum amount of one-off payments from 15% to 20% of the total capitalised funds in the 2nd pillar [78], which was already reflected in larger one-off payments in 2024 (Figure 8.2).

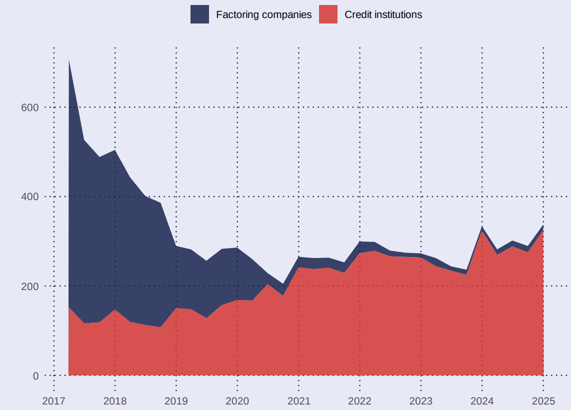
Figure 8.3 Growth in accumulated funds of pension insurance companies
Balance of technical provisions by type of pension scheme, in EUR million



Source: Hanfa

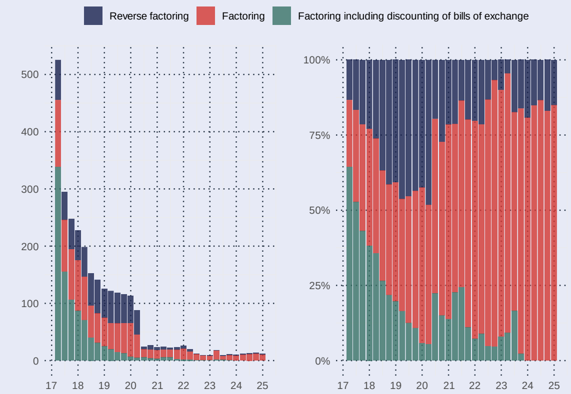
The increase in payments also led to an increase in the technical provisions of pension insurance companies (Figure 8.3), which amounted to EUR 424.1m at the end of 2024, an increase of 30.3% from the year before.

Figure 8.4 Credit institutions continue to predominate in factoring transactions
Value of receivables from factoring transactions, in EUR million



Sources: Hanfa, HNB

Figure 8.5 Predominance of classic factoring in the portfolio of factoring companies
Portfolio structure of factoring companies, in EUR million (left) and % (right)



Source: Hanfa

A new factoring company started operating in 2024, but the number of active companies remained unchanged in 2024, with three factoring companies operating at year-end. Demand for factoring services remained relatively

[76] In 2024, 35.2% of insured persons opted for a pension from both the 1st and the 2nd pillar, up from 21.2% from 2023.

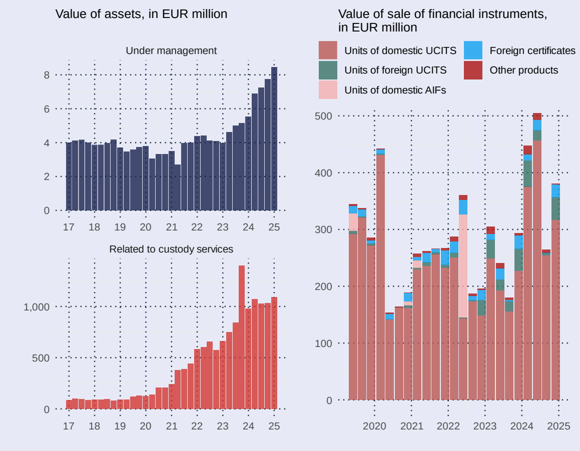
[77] Amendments to the Act on Pension Supplements Earned under the Pension Insurance Act (**Official Gazette, No 156/23**) provide that pension beneficiaries who opted for pension payments from both pillars of mandatory pension insurance are entitled to an increase in the basic pension supplement from 20.25% to 27% for pensionable service from the date of introduction of the 2nd pension pillar. This aimed at adjusting the basic pension supplement rate for the entire pensionable service, i.e. the rate was made equal to the rate of the supplement paid to pension beneficiaries receiving pensions from the 1st pillar alone.

[78] This refers to the amendments to the Act on Pension Insurance Companies (**Official Gazette, No 156/23**).

stable in 2024, with total receivables from factoring transactions in Croatia standing at EUR 337.1m at the end of the year, an increase of 1.0% from the year before. Most factoring operations continued to take place in credit institutions (96.4% of receivables, Figure 8.4). In 2024, no factoring company carried out factoring transactions involving the discounting of bills of exchange, which further underlined the predominance of classic factoring in the portfolio structure of factoring companies, with a share of 85.0% at the end of 2024 (Figure 8.5).

Investment firms recorded a strong increase in the sale of domestic UCITS units (Figure 8.6), driven by favourable market conditions and the larger offer of funds (more information in Chapter **5 Investment funds**). The distribution of domestic UCITS amounted to EUR 1.4bn in 2024, which represents 87.8% of the total distribution and an increase of EUR 0.6bn or 70,3% from 2023. At the same time, as the growth of assets related to the provision of custody services slowed down, those assets stood at EUR 1.1bn at the end of 2024, an increase of 11.5% from the end of 2023. Assets under management rose sharply, by 52.9%, standing at EUR 8.5m at the end of 2024.

Figure 8.6 Significant increase in sales of domestic UCITS in 2024

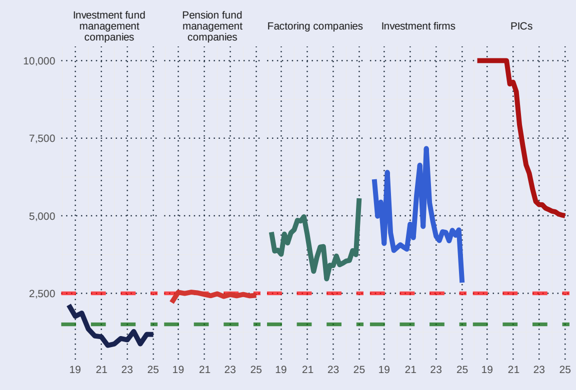


Source: Hanfa

Structural characteristics and risks

Because of their high specialisation and the small number of providers, most segments of the other financial service providers have a high degree of market concentration (Figure 8.7). The exception is the segment of investment fund management companies, where concentration is moderate thanks to a relatively large number of companies and a more even distribution of assets. The increase in market concentration in the factoring segment during 2024 is due to the exit of one company from the market and the limited market share of the new company. Market concentration fell considerably in the investment firm segment, primarily due to the start of operations of the new company.

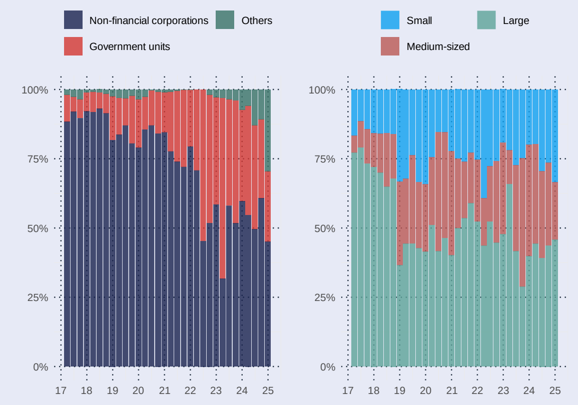
Figure 8.7 Market concentration of almost all other financial service providers at very high levels
Herfindahl-Hirschman Index (HHI)



Note: According to the classification made by the US Department of Justice, markets with an HHI of less than 1,500 are considered competitive, while markets with an HHI exceeding 2,500 are considered highly concentrated.
Source: Hanfa

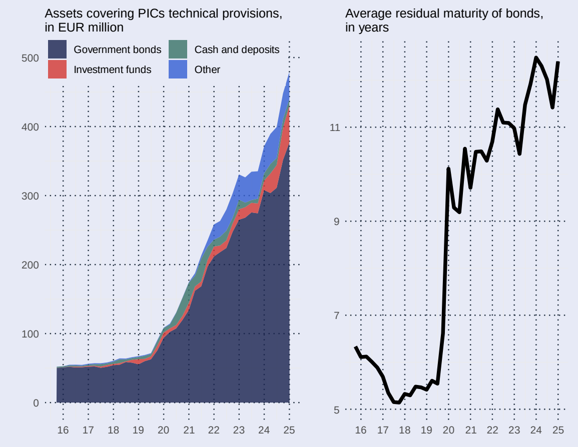
As factoring companies mostly operate with the non-financial corporate sector, their exposure to **credit risk** largely depends on developments in that sector. This exposure has been declining gradually in recent years so that at the end of 2024 the non-financial corporate sector accounted for 45.0% of total receivables of factoring companies (Figure 8.8). With non-financial corporations maintaining solid business performance in 2024 and the non-performing loans ratio in this sector remaining at historical lows (Figure 2.14), the credit risk associated with this segment was not high at the end of 2024, which is also reflected in the decrease in credit risk exposure of factoring companies. The business model of factoring companies is based on short-term financing, which generally carries lower credit risk compared to banks and leasing companies. Nevertheless, it is necessary to monitor possible changes in financing conditions, operating costs and aggregate demand that could affect the sector's profitability should economic conditions deteriorate.

Figure 8.8 Over the past few years, the factoring sector has reduced its exposure to non-financial corporations
Structure of factoring companies' receivables by sector (left) and size of counterparty (right)



Source: Hanfa

Figure 8.9 Value of PICs assets is highly dependent on interest rate movements



Source: Hanfa

Interest rate risk remains the most prominent systemic risk for pension insurance companies because of the high share of government bonds, which accounted for 78.6% of assets covering technical provisions at the end of 2024 (Figure 8.9). This risk is further increased by a relatively large maturity mismatch between their assets and liabilities due to the longer maturity of liabilities. The legislative amendments of early 2024 liberalised investments of assets covering technical provisions, allowing for more flexible asset management, but also increasing exposure to **market risks**. Against the backdrop of heightened geopolitical tensions and uncertainty at the beginning of 2025, interest rate and market risks remain the most prominent systemic vulnerabilities of the sector of pension insurance companies.

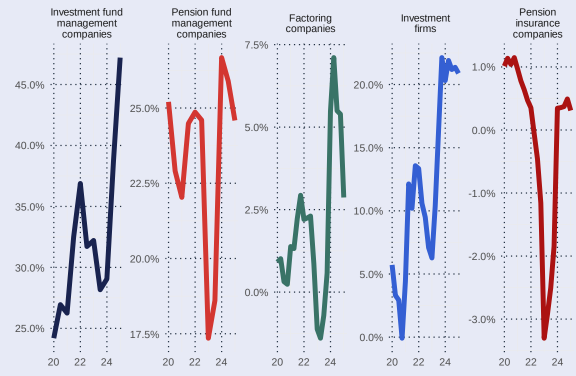
Investment firms are highly dependent on execution of orders and market intermediation, which makes them vulnerable to sudden changes in investor sentiment. Pension and investment fund management companies are also significantly exposed to **market risks**, as their management fees are linked to the value of the assets they manage. This exposure is more pronounced in investment fund management companies because of the possibility of **liquidity risk** materialisation and additional impairment of assets under management due to potential net outflows. In the current environment of heightened geopolitical and trade tensions, market risks are elevated, which further amplifies the sector's vulnerability.

Profitability and solvency

Positive market developments and intensified investment activity contributed to profitability growth of other financial service providers in 2024 (Figure 8.10). Stable earnings and adequate capital positions enhance the sector's resilience to potential systemic shocks, which is crucial in the context of elevated systemic risks at the beginning of 2025.

Figure 8.10 Profitability of some other financial service providers at very high levels

Return on average assets, in %



Source: Hanfa

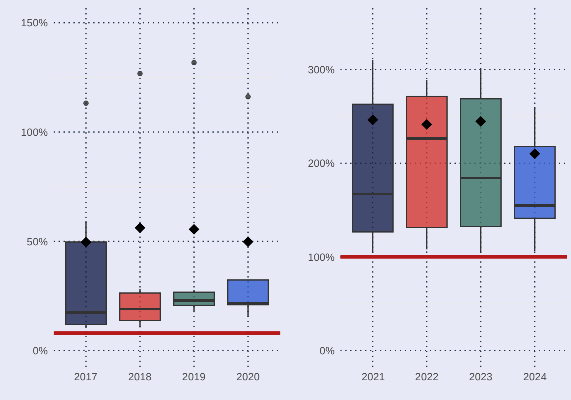
Positive market developments and stable net contributions boosted pension fund assets in 2024, which helped maintain stable income for pension fund management companies. Management fees account for the bulk of their revenue, with the growth of assets under management offsetting the effects of regulatory changes in early 2024 that abolished and reduced some fees [79]. Nevertheless, as a result of rising operating expenses, the profitability of companies decreased slightly, with return on average assets standing at 24.6% at the end of 2024 (a decrease of 2.1 pp from the end of the previous year).

Strong investment performance, coupled with positive investor sentiment and a broader offer of domestic UCITS spurred a strong growth of assets managed by investment fund management companies in 2024. This led to an increase in revenues from management fees of 17.4% from the previous year, which, despite the growth in total expenses (10.1%), led to a significant hike in profitability. Return on average assets rose by 18.2 pp, to 47.2% at the end of the year.

The profitability of factoring companies shrank by 2.6 pp in 2024, with return on average assets at the end of the year standing at 2.9%. This fall was primarily due to structural changes in the sector, i.e. the cessation of operations of a company that generated most of the sector's profits in previous periods.

Figure 8.11 Capitalisation of investment firms remains relatively high

Total capital ratio of investment firms, in % of risk weighted assets



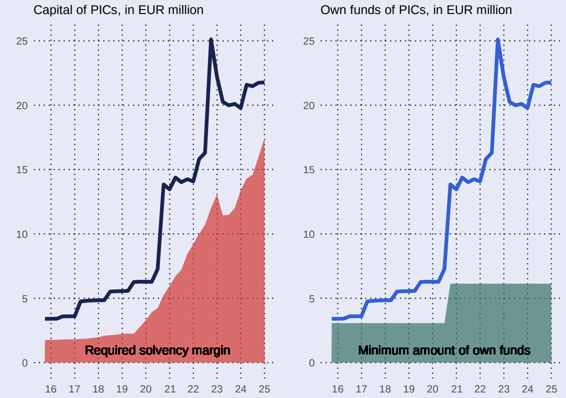
Note: The highlighted mark indicates the total capital ratio of the system. The highlighted horizontal line indicates the minimum total capital ratio. Regulation (EU) 2019/2033 on prudential requirements of investment firms, which changed the method of expressing the total capital ratio and the minimum total capital ratio, applies from September 2021.
Source: Hanfa

[79] For mandatory pension funds, the entry fee of 0.5% of the contributions paid was abolished and the fee for the management of mandatory pension funds was reduced from 0.27% annually to 0.25% annually in 2024; it will be further reduced gradually by 0.01% annually, to 0.20% from 2029 onwards. As for voluntary pension funds, the exit fee, which is only paid in the case of a personal account transfer to a voluntary pension fund managed by another pension company, has been reduced from a maximum of 2.5% to a maximum of 1.75%.

Favourable market conditions and intensified investment activity contributed to investment firms' profit growth of 33.0% (EUR 2.4m in 2024). Return on average assets reached 20.9% (growing by 0.6 pp), as a result of a significant increase in total assets of investment firms (+63,0%), which was mostly due to the rise in the number of active firms. The solid profitability helps maintain capital reserves at relatively high levels, significantly above the regulatory minimum (Figure 8.11), which contributes to the resilience of investment firms and enables the absorption of potential systemic shocks.

The stabilisation of market conditions and increased payments to pension insurance companies contributed to preserving the sector's profitability in 2024. Pre-tax profits of the sector rose by 13.9%; however, given the even larger increase in assets, of 30.0%, return on average assets remained at the previous year's level, standing at 0.3% at the end of 2024. The capitalisation of pension insurance companies remained above regulatory requirements (Figure 8.12), strengthening the sector's resilience in a challenging environment.

Figure 8.12 Capital adequacy of pension insurance companies still at satisfactory levels



Note: Under the Act on Pension Insurance Companies (Official Gazette, No 22/2014, 29/2018, 115/2018 and 156/2023), PICs are required to meet all separate capitalisation requirements prescribed in the Act.
Source: Hanfa

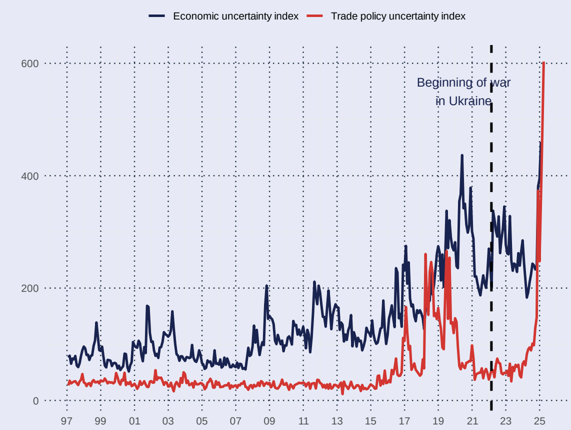
9 STRESS TESTING

This year's adverse scenario is based on elevated geopolitical risks, a slowdown in economic activity and a resurgence of inflationary pressures. Despite the strong shock, the results show that the aggregate resilience of the financial services sector would remain satisfactory, although profitability of some parts of the system might be threatened. The stress intensity and its impact on the financial services sector in the forthcoming period will primarily depend on global developments, in particular the evolution of the geopolitical situation and its impact on market trends. However, the growing diversification of investments and abundant liquidity and capital reserves ensure the sector's resilience to the simulated highly unlikely but plausible shocks.

Initial scenario assumptions

Geopolitical risks, which have been elevated since the beginning of the conflict in Ukraine, escalated further in early 2025. Following the US presidential elections and its foreign policy shift, financial markets experienced strong fluctuations (more information in Chapter **3 Financial markets**), with uncertainties being further heightened by the tightening of trade relations between the world's leading economies [80]. At the beginning of 2025, the global economic uncertainty index[81] soared to its highest level ever (Figure 9.1), surpassing even that seen during the pandemic. The financial services sector has continued to operate in a very volatile environment, with uncertainty peaking at the beginning of April, when the United States significantly raised import tariffs. An additional threat to financial stability is posed by a build-up of inflationary pressures at the end of 2024 and a slowdown in some European economies, with increased public financing needs driven by larger defence spending and financing costs.

Figure 9.1 Uncertainty at historical highs



Sources: www.PolicyUncertainty.com and https://www.matteoiacoviello.com/tpu.htm

The upward cycle of benchmark interest rates came to an end in mid-2024, prompting further growth in financial market valuations. Recent market developments indicate a very low risk premium and possible overvaluations of individual classes of financial assets. A sudden tightening of global trade relations further aggravated existing

[80] The trade tariffs introduced on imports from Mexico, Canada and China, as well as the announced imposition of customs duties on imports from the European Union.

[81] Global Economic Policy Uncertainty Index

imbalances and uncertainty. Given the high level of risks, the scenarios are calibrated in a relatively cautious manner, including the baseline scenario.

Characteristics of the simulation

Stress testing of the financial services sector is conducted on an annual frequency to assess the sector's resilience to highly unlikely systemic shocks. This iteration of the stress testing exercise is based on data for the end of 2024[82] and covers the period through to the end of 2026. The exercise is based on two macroeconomic scenarios (baseline and adverse) that use simulated values of key macroeconomic indicators and performance indicators of the financial services sector. The exercise covers pension and investment funds, insurance and leasing companies, which together account for 98.2% of financial services sector assets, making the exercise highly representative. The application of common scenarios and the transmission of shocks through detected channels within and outside the sector ensure the consistency of the exercise. Although the results are presented by sector, a comprehensive view is needed for their interpretation because of the interconnectedness and inseparability of individual industries in the system. It is important to note that the scenarios applied do not represent Hanfa's official expectations, but are used exclusively for the purpose of conducting the exercise.

Baseline scenario

Inflationary pressures eased over the course of 2024 and had a relatively limited impact on global economic growth. Market developments were marked by the relaxation of monetary policy and the return of investment optimism, despite occasional sparks of volatility. However, sentiment deteriorated in early 2025, affected by the tightening of global trade relations and the introduction of US protectionist measures. Short-term expectations are highly uncertain, with the main risks stemming from geopolitical insecurity and a possible surge in energy prices and, indirectly, overall inflation. The increase in credit risk of the real sector in the context of high general government financing needs and the still large financing costs might limit economic growth in the forthcoming period.

The baseline scenario[83] does not include negative tariff effects and starts from the assumption of a stable global environment. In such circumstances, the domestic economy would grow at slightly lower but still positive real rates of 3.1% in 2025 and 2.9% in 2026 (Table 1). The main drivers of growth are personal consumption (supported by a decrease in unemployment and wage growth[84]) and investments financed by EU funds, albeit of a smaller scale than in the previous years. The scenario also assumes a gradual easing of inflation, to 3,8% and 3.3% in the first and second year of simulation, respectively, while demand

[82] In view of data availability, data as at end-March 2025 were used for the pension and investment fund sectors.

[83] The baseline scenario incorporates the assumptions up to end-February 2025.

[84] The unemployment rate decreases by 1.1 pp in the next two years and gross wages increase by 5.8% and 5.1% in 2025 and 2026, respectively.

pressures remain pronounced, particularly due to labour shortages and wage growth. Also, the relative inelasticity of profit margins may additionally slow down and hamper inflation easing even when external pressures (energy, raw materials) diminish.

The growth in consumption, as well as the general price level, further stimulates the expansion of budget expenditures because of rising social benefits and public sector wages. While the budget remains in a mild deficit (–1.8% and –1.1% at end-2025 and end-2026, respectively), the public debt-to-GDP ratio drops to 54.2% by the end of 2026.

The real estate market continues to grow vigorously, albeit more moderately than in previous years (8.8% and 7.8% in 2025 and 2026, respectively), primarily due to the decline in market activity amid high construction costs and reduced household credit potential[85], which is why real estate purchase and sale transactions are increasingly made outside the banks' credit channel.[86]

The baseline scenario is exposed to significant risks, which are further reinforced by the US tariffs imposed in April 2025 and not included in this scenario. Although their impact on Croatia is mostly indirect, the consequences may be significant because of the openness of the domestic economy. Given pronounced systemic risks, this year's baseline scenario has been assessed relatively conservatively.

Adverse scenario

Systemic risks in the financial services sector were assessed as elevated at the end of 2024 and are the starting point for the conduct of this year's stress testing exercise. The adverse scenario assumes an additional tightening of the already tense geopolitical relations [87] and a severe escalation of the trade war among the world's leading economies.

The initial shock includes a surge in energy prices and production costs, while trade barriers cause shortages and bottlenecks in global supply chains. A combination of these shocks results in elevated inflationary pressures.

Reduced trade is further slowing down the already weak European economy and increases the likelihood of a recession. Such trends dampen demand and investments in Croatia's main trading partners, causing recessionary trends in the domestic economy as well, primarily due to the weakening of foreign demand for tourist services. The Croatian economy would contract by 3.2% in 2025 and 2.0% in 2026 under the adverse scenario. The spillover of external shocks would also

[85] Under the **Decision on consumer lending criteria**, in force as of 1 July 2025, the CNB limits the ratio of monthly debt service to consumer income (debt-service-to income, DSTI) to a maximum of 45% for housing loans and 40% for non-housing loans, whereas the ratio of the total loan amount to the value of the real estate serving as collateral (loan-to-value, LTV) may not exceed 90%. The maturity of housing and non-housing consumer loans secured by real estate is limited to thirty, while the maturity of other non-housing loans is limited to ten years.

[86] According to data of Opereta (real estate agency), 55% of transactions in 2024 were made by use of own funds.

[87] The term "tightening of geopolitical relations" implies an additional escalation of the ongoing active conflicts in Ukraine and the Middle East, but also the tightening of relations between the USA and China in the Pacific, as well as the possibility of new conflicts. The initial shock therefore represents the materialisation of any of the listed events or a combination of several possible events.

worsen labour market indicators, with the unemployment rate rising by 1.5 pp by the end of 2026. Structural characteristics of the domestic labour market, above all the current labour shortages, would support an increase in nominal wages even under the adverse scenario, although at much lower rates than in previous years (of 3.8% and 2.8% in 2025 and 2026, respectively).

Despite subdued personal consumption, inflation would rise to 5.9% in 2025 and remain elevated in 2026 (4.1%), primarily due to a stronger inflationary spiral on the side of demand for goods, price shocks in the energy market and higher costs of producing goods.

Inflationary pressures do not allow room for easing monetary policy, so it is unable to stimulate the economy by lowering benchmark interest rates, which in each year of the simulation grow by 2 pp on average.

Financial markets are characterised by greater uncertainty and rising financing costs, which increases the credit risk of the real sector, primarily in small and highly indebted companies, leading to a fall in investments. Although the reduction in private sector investments is partly compensated by public sector investments (thanks to EU funds), the overall impact on GDP remains negative in the simulated period.

The market response to unfavourable financing conditions against the backdrop of impaired macroeconomic indicators leads to a jump in the risk premium, affecting the cost of government borrowing by triggering a hike in yields on long-term government bonds. With stifled revenue growth due to reduced economic activity and higher expenditures due to larger outlays for wages and social benefits to address the consequences of inflationary developments, the public deficit would widen to –3.6% in 2026, whereas public debt would reach 67.1% of GDP at the end of that year. While Croatian government bonds maintain an investment grade rating, a slight deterioration in public indicators and a general increase in yields on risk-free EU bonds push the yields on domestic bonds up to 4.7% by the end of 2026.

Increased market volatility and poor investment sentiment are reflected in price corrections in capital markets, particularly for riskier issuers. The weaker economic outlook and tighter financial conditions would also cause a slowdown in the real estate market, which would grow by around 1.0% annually under the simulated adverse scenario.

Bearing in mind these characteristics, the adverse scenario shows a highly unlikely but plausible chain of unfavourable events over the next two years.

Table 1 Macroeconomic scenario
Overview of estimated values of key macroeconomic variables and financial market shocks used in the stress testing exercise

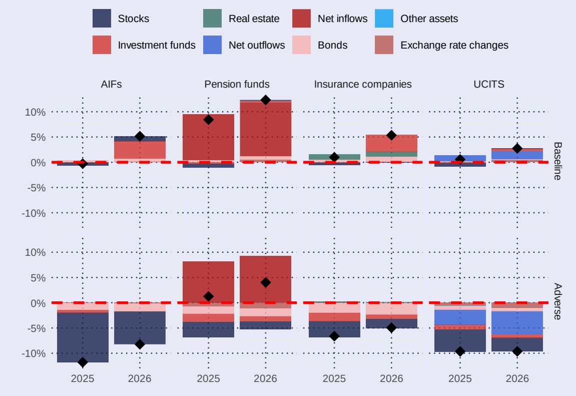
								Baseline		Adverse	
Indicator	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2025**	**2026**
Gross domestic product (real annual growth rate)	2.9	3.1	-8.3	12.6	7.3	3.3	3.9	3.1	2.9	-3.2	-2.0
Inflation (in %)	1.0	1.3	-0.3	5.2	12.7	5.4	4.5	3.8	3.3	5.9	4.1
Unemployment rate (in % of active population)	7.3	6.2	8.4	6.5	6.7	5.6	4.6	4.0	3.5	5.5	6.1
Gross wages (annual nominal growth rate)	5.2	4.8	3.7	4.6	9.3	13.5	15.9	5.8	5.1	3.8	2.8
Real estate prices (average annual growth rate)	6.1	9.0	7.7	7.3	14.8	11.9	10.4	8.8	7.8	1.1	1.0
Public debt (in % of GDP)	72.8	70.9	86.5	78.2	68.5	61.8	57.6	56.4	54.2	60.0	62.1
General government balance (in % of GDP)	0.0	0.2	-7.2	-2.5	0.1	-0.8	-2.4	-1.8	-1.1	-2.9	-3.6
Yield on government bonds (in %)	2.0	0.6	0.6	0.4	3.4	3.4	3.1	2.8	2.4	4.1	4.7
Bank loans to the real sector (annual growth rate)	0.1	2.1	1.1	1.2	1.2	1.6	3.1	2.7	2.4	1.1	0.9
Short-term interest rates (in %)	2.6	1.3	1.1	1.0	2.7	5.0	4.0	5.8	6.5	6.7	8.9
Long-term interest rates (in %)	3.3	2.3	2.8	2.1	3.7	5.3	4.8	5.7	5.8	6.6	8.0

Source: Hanfa

Stress test results

Under the baseline scenario, the financial services sector shows resilience to short-term disturbances, with almost all market segments recording asset growth (Figure 9.2). Assets of pension funds grow by 8.4% in 2025 and by 12.4% in 2026, driven by favourable labour market conditions and stable net payments throughout the period under review. However, under the baseline scenario, the returns of pension funds would be slightly negative in 2025 (–0.6%) and grow moderately in 2026, by 1.9% (Figure 9.3).

Figure 9.2 Heterogeneous impact of stress conditions on the assets of the financial services sector
Decomposition of the relative change in sector assets under different scenarios, in %



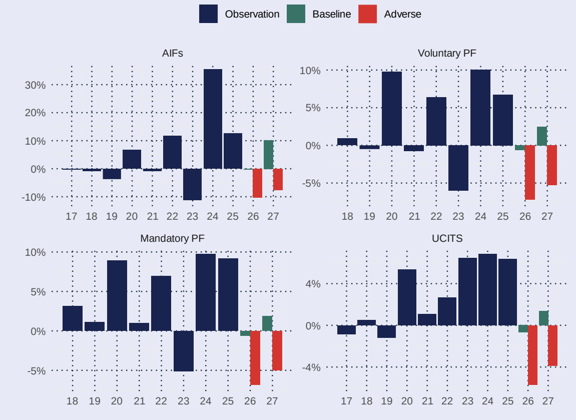
Note: The chart shows the change in AIFs assets from the end of June 2024.
Source: Hanfa

Other segments of the financial services sector would also see an increase in assets under the baseline scenario, though of more modest intensity. Following the strong growth of UCITS in 2024, when their net assets surged by as much as 41.0% (more information in Chapter **5 Investment funds**), growth would decelerate to 3.4% in the two years covered by the baseline scenario, while returns would be subdued (ranging from –4.0% for equity funds to 0.2% for bond funds). Alternative investment funds would see a slight 0.3% decrease in net assets in 2025, followed by a recovery and asset growth of 5.2% in 2026, with a similar return dynamics as for UCITS (–0.3% in 2025 and +10.2% in 2026).

The increase in total assets of insurance companies, of 6.4% by the end of 2026 under the baseline scenario, is the result of balanced developments in financial markets and stable income from insurance business. Notwithstanding possible challenges such as short-term inflationary pressures or shifts in product demand, insurance companies would continue to record positive financial performance and maintain profitability within multi-year averages, which confirms the sector's resilience and its ability to adapt to market conditions.

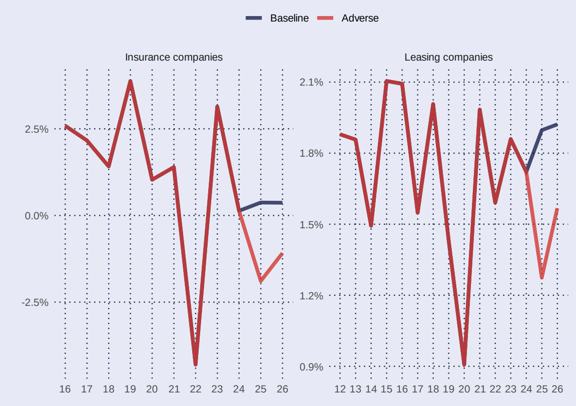
Amid favourable economic conditions and low credit risk, leasing companies would continue to see stable performance and satisfactory profitability levels (1.9% at the end of 2026). Leasing demand, especially in the vehicle financing segment, remains high. Paired with moderate risks and low non-performing receivables, the leasing business remains stable, contributing also to the overall resilience of the non-financial services sector.

Figure 9.3 Stress conditions would have a strong effect on fund returns
Returns of pension and investment funds, in %



Source: Hanfa

Figure 9.4 Simulated stress would lower the profitability of insurance and leasing companies
Return on assets of insurance and leasing companies, in %



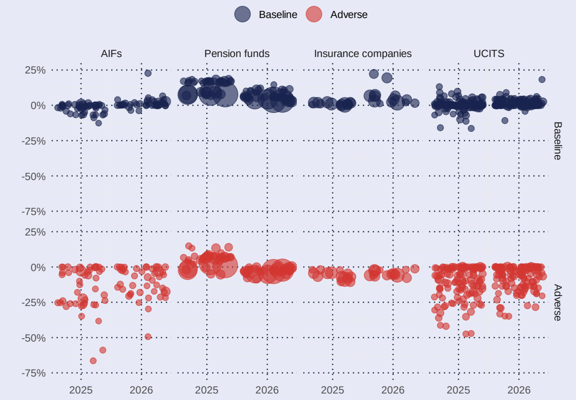
Source: Hanfa

Pension funds show resilience even under the described adverse scenario. Despite unfavourable market developments, their net assets would increase by 6.0% in the two-year period thanks to stable net payments supported by a robust labour market throughout the period. However, the simulated market correction would affect returns, which would in 2025 amount to –6.8% and –7.2% for mandatory and voluntary pension funds, respectively. This decline reflects short-term volatility and temporary loss of market value. The latter would also be true in the second year of simulation, when returns would stand at –5.0% and –5.3% for mandatory and voluntary pension funds, respectively (Figure 9.3).

Investment funds exhibit greater sensitivity to simulated shocks, so their net assets would fall by –9.7% and –9.1% in 2025 and 2026, respectively. In addition to the decline in assets, the profitability of all types of investment funds would also be impaired in 2025, ranging from –2.1% for other funds to –23.8% for equity funds. Returns would remain negative in 2026, albeit to a smaller degree (Figure 9.3). Alternative investment funds would record a 19.0% fall in net assets over the period under review with negative returns in both 2025 and 2026 (Figure 9.3). Although unfavourable, simulated losses would be relatively smaller than in 2023, when markets reacted strongly to the beginning of the upward trend in central bank interest rates.

Deteriorated market conditions would be mirrored in insurance companies' assets, which would fall by 11.2% over the simulation horizon. This would primarily be the result of corrections in stock, bond and real estate markets. The adverse scenario would also have a strong impact on the profitability of insurance companies, which would significantly worsen, with return on assets standing at –1.1% at the end of 2026 (Figure 9.4). Even though the impact of simulated shocks on leasing companies would be more moderate, their profitability would decrease, while the credit quality of their portfolio would be impaired.

Figure 9.5 Dispersion of the results increases in stress conditions
Relative change in the value of companies' assets depending on the scenario, in %



Note: The size of dots denotes the simulated size of a fund or an insurance company at the end of 2026.
Source: Hanfa

The analysis results suggest that the overall financial services system would be able to withstand simulated shocks without compromising sector stability. Nevertheless, some companies may face significant challenges. In a situation of market stress, there are differences in the structure and riskiness of investment portfolios that are less pronounced in stable circumstances (Figure 9.5). In simulated circumstances, some companies, in particular those more exposed to market risks and with less diversified investments, could experience problems in regular operations.

Conclusion

Stress testing results show that the sector would remain stable, even though the simulated shocks would adversely affect assets, profitability and systemic risks in the financial services sector. Some entities, especially those more sensitive to market changes, could suffer more severe consequences. The stress intensity and its impact on the financial services sector in the forthcoming period will primarily depend on global developments, in particular the evolution of the geopolitical situation and its impact on market trends.

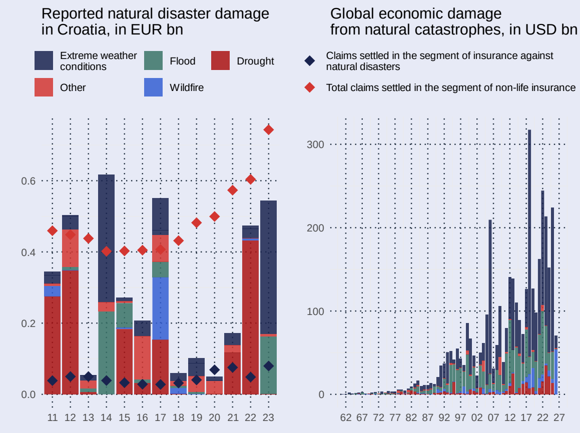
BOX 1 RISK MATRIX: MONITORING CLIMATE RISKS

Climate risks, such as increasingly frequent extreme weather events and challenges related to the transition to a low-carbon economy, are becoming more relevant for the financial sector. Their effects may lead to losses for the economy and institutional investors, as well as for members and insured persons, due to a decrease in the value of investments or reduced availability of protection. In more serious cases, they may disrupt the functioning of some parts of the financial system; therefore, their timely recognition and management are crucial for maintaining financial stability. Notwithstanding the challenges (e.g. the lack of data, reliable indicators and long-term scenarios), it is necessary to develop tools for risk assessment and monitoring – such as a climate risk matrix. Results of the climate risk matrix for the financial services sector suggest that domestic institutional investors are moderately exposed to climate risks, with a noticeable downward trend in exposures over the past period. However, some parts of the system remain more vulnerable to specific risk dimensions, which points to the need to further improve the analysis and management of these risks.

Why should climate risks be measured?

Climate risks are not only a long-term problem that the global economy will face in several decades, but a threat that already affects economic developments. Unfavourable climate events are becoming more frequent and more severe, and the financial costs of their resolution are on the rise, both in Croatia and globally (Figure 1). While weather-related damage is unpredictable, it shows a strong upward trend in the long run, the frequency and intensity of which are clearly affected by climate change. Continuous urbanisation raises exposure, while increasingly frequent and intense climate events exacerbate the vulnerability of infrastructure. The rise in damage is also affected by inflation and growing asset values. Global weather damage in 2024 was estimated at EUR 320bn, an increase of almost 30% from the year before. As only a little over 40.0% of this amount is secured (i.e. USD 140bn), the timely identification and management of climate-related risks is essential to mitigate losses and safeguard financial stability.

Figure 1 Growth in the number and intensity of extreme weather events



Note: Extreme weather conditions include precipitation and hurricanes and windstorms.
Sources: Ministry of Finance, Our World in Data

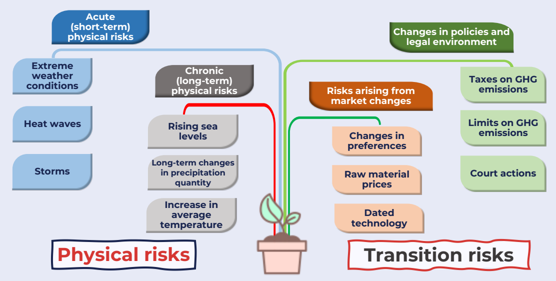
The impact of climate change on the economy and the financial system is multiple and increasingly prominent. Climate change can adversely affect price stability due to higher production costs, and slow down economic growth due to reduced production or increases in credit risks of non-financial corporations. As a result, this change may heighten market uncertainty and increase borrowing costs due to a higher risk premium, which may ultimately also affect financial sector operations. Given the growing materiality of these risks, central banks and financial regulators increasingly recognise climate risks as a threat to financial stability and start to integrate them into regular supervisory practices[88]. Hanfa has also taken concrete steps on climate risks by supporting the financial services sector in adjusting to ESG regulations, publishing guidelines for ESG reporting of issuers and engaging in supervisory activities aimed at preventing greenwashing practices.

In order to ensure effective risk-based supervision, it is necessary to develop a systematic approach for a timely measurement and monitoring of climate risks – first on a system-wide basis and then at the level of individual entities. The first step in this process involves developing a comprehensive exposure tracking tool – a climate risk matrix for the financial services sector. Such a tool enables a better insight into the sector's vulnerabilities, the identification of priority supervision areas, and support for targeted policy-making. In addition to contributing to stronger resilience of the financial system, the matrix also aims to encourage entities to proactively manage climate risks and integrate sustainability into business models.

Impact of climate risks on the financial system

Climate shocks, such as extreme weather events or sudden changes in climate policy, can amplify existing vulnerabilities in the financial system and threaten its stability through various transmission channels and secondary mechanisms of impact enhancement. Climate-related shocks can have more severe and more unpredictable consequences than other types of shocks due to uncertainty about their timing and intensity, possible non-linearities (breakpoints), as well as indirect spill-over effects of subsequent shocks.

Figure 2 Schematic diagram of climate risk dimensions and types



Source: Hanfa

Climate shocks can be transmitted to the economy and the financial system through **physical risks** (e.g. damage to assets or business caused by floods, fires and droughts), **transition risks** (e.g. costs of adjusting to new regulations or changes in consumer preferences), or combinations of both risk types (Figure 3). Physical risks can be acute and chronic, i.e. those that occur suddenly in the short term, such as extreme weather events (e.g. floods, fire or drought), and those arising gradually over a longer period of time, such as rising sea levels or changing patterns of precipitation. Transition risks mainly relate to risks arising from climate-driven market changes or changes in the regulatory and legal environment to adapt to a low-carbon economy. Regulatory and legal risks include the introduction of measures such as carbon pricing, stricter emission rules and

[88] More information at CNB and ECB.

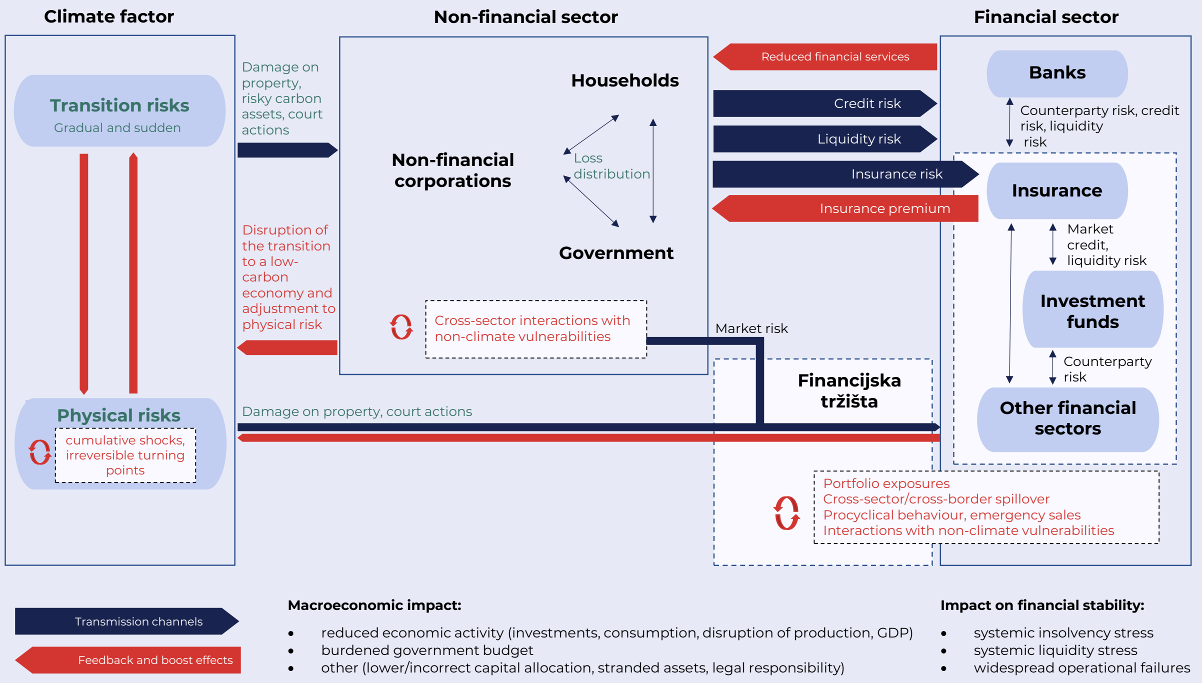
possible environmental court actions that may undermine corporate business processes. Market risks relate to preference changes of consumers who lose interest in products negatively affecting the environment, or the increase in raw material costs due to changes in supply chains.

When combined with existing vulnerabilities, these risks may result in significant financial losses. A negative impact on the economy may include the destruction of property, a slump in production and the creation of stranded assets, i.e. assets that lose their economic value due to climate change. The overall impact will also depend on the speed and effectiveness of economic adjustment to new conditions, for example, changes in consumption, production and investment patterns.

The extent of the impact of climate-related risks on the financial system will also depend on the system's exposure to physical and transition risks and on its ability to manage those risks. Climate shocks are transmitted through similar channels as traditional financial risks, and their relative importance depends on the nature of the shock and the structure of the economy and the financial system. The key channels of risk transmission include **credit risk** arising from an increase in non-performing placements and credit risk premium, **market risk** arising from possible price corrections, and **liquidity risk** arising from asset withdrawals from funds and industries subject to climate risks.

In addition, climate shocks can also have a direct impact on the financial sector (for example, through damage to infrastructure or IT systems) and may spread further across the financial system (for example, through risk transfer between banks, funds and insurers).

Figure 3 Schematic diagram of the methodology for assessing climate-related vulnerabilities



Source: FSB (Financial Stability Board)

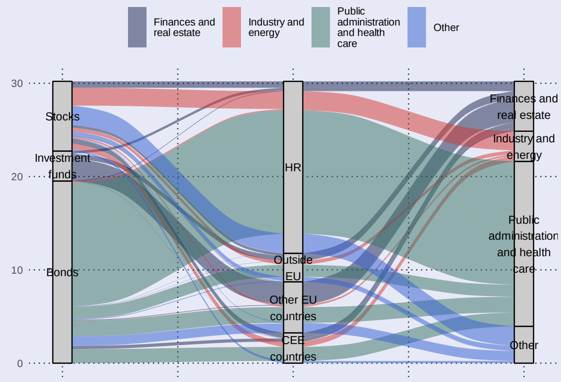
Measuring climate risk: data, indicators and the methodological framework

The development of a climate risk matrix is based on a multi-stage process[89] used in the construction of the systemic risk matrix (more information in **Financial Stability No 1**). One of the most important steps in this process is the collection of relevant data that allow a quantitative assessment of the financial services sector's exposure to climate-related risks, which are gathered from multiple sources (including climate-related and environmental data, as well as detailed information on financial institutions' exposures). Although significant steps in climate data creation and availability have already been made, climate risk analyses continue to face numerous challenges, including lack of standardisation, unavailability of specific data and uneven reporting methodologies. The quality of available data has a direct impact on the reliability and precision of the climate risk analysis because inadequate or insufficiently detailed data may result in incorrect assessment of exposures and vulnerabilities. Further development in terms of data availability, quality and standardisation is necessary to enable more precise risk measurement, more sophisticated assessment methods, and integration into new systemic risk assessment tools such as stress testing.

The next step in this process is the calculation of risk indicators. The FSB's analytical toolkit for defining climate indicators[90] groups the indicators into three high-level categories of metrics: **proxies** – indicators signalling the presence of potential risks; **exposure metrics** – showing the level of exposure of individual institutions to risks; and **risk metrics** – quantifying potential financial loss. The analysis carried out focuses on the first two categories of indicators, which are suitable for inclusion in the climate risk matrix. Estimated climate risk indicators broaden Hanfa's current systemic risk matrix and enable systematic monitoring of risks arising from climate change, and their interaction with existing financial risks.

Figure 4 Investments of domestic institutional investors are highly concentrated in the domestic public sector

Investment structure of domestic institutional investors at the end of 2024, in EUR bn



Note: The term institutional investors refers to pension and investment funds and insurance companies.
Source: Hanfa

The financial services sector's exposure to climate risks depends primarily on the structure of its investments. Notwithstanding significant portfolio diversification in recent years, domestic institutional investors are still extremely concentrated in the domestic government sector because of their investment in government bonds. At the end of 2024, public administration and defence activity accounted for as much as

[89] The process consists of five basic steps: 1) defining key risk categories; 2) retrieving required data; 3) calculating risk indicators; 4) assessing the level and dynamics of observed risk; and 5) aggregating individual scores into the overall score for climate-related risk exposure.

[90] The complete paper is available at the following **link**.

65.8% of UCITS assets[91], 58.0% of pension funds' assets, 58.8% of insurance companies' assets and 24.4% of AIF assets[92] (Figure 5), while financial activities accounted for the second largest share. It is noteworthy that investments in investment funds are inherently classified as financial activity, which does not necessarily reflect actual risk exposure. For a complete and precise assessment of climate exposure of these investments, it is necessary to follow a look through approach, that is, see in what these funds actually invest. However, this analysis largely depends on the availability and quality of data, which are often fragmented or insufficiently transparent, posing challenges to accurate mapping of climate risks. Even when direct investments of financial institutions in stocks and bonds are observed, a significant share of these investments relates to other financial institutions. Direct exposure of financial institutions to physical climate risks is relatively low compared to sectors such as energy, industry or agriculture, which may create a perception that the sector's vulnerability is limited. Nevertheless, the financial sector is highly vulnerable to indirect and transmission effects of climate risks; therefore, an assessment of climate risks in the financial sector calls for a comprehensive approach and understanding of all channels of risk transfer within the financial system (Figure 3).

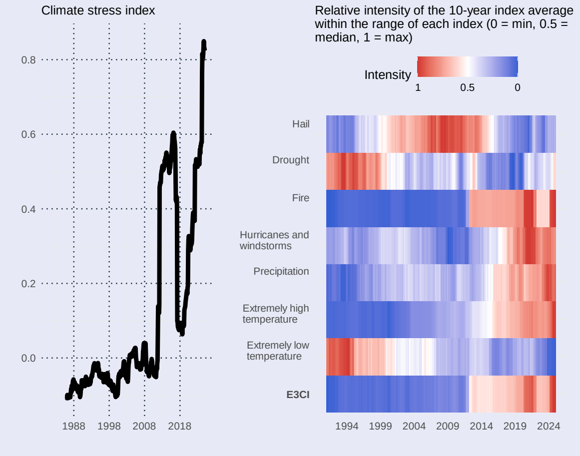
As climate-related risks are highly dependent on location, an important factor of exposure to these risks is the geographical distribution of investments. At the end of 2024, domestic institutional investors allocated the largest share of their assets to Croatia – pension funds 63.5%, insurance companies 62.3%, AIFs 59.0% and UCITS 23.2%. Among other significant countries, France, Belgium, Germany, Slovenia and the USA stood out in terms of their share in investments[93].

Physical risks

Physical climate risks relate to adverse events arising from climate change, such as extreme weather conditions and long-lasting climate change; proxies are used to identify the frequency and intensity of such occurrences in a given geographical area. The main sources for physical risk assessment are the E3CI index [94] (European Extreme Events Climate Index) and data on regional physical vulnerabilities published by the DRMKC[95] (European Commission Disaster Risk Management Knowledge Centre) of the European Commission. Both sources construct physical risk indices based on objective climate data and enable a quantification of the impact of extreme climate events on individual areas and their comparison with historical averages, which provides insight into the strength and direction of physical risk movements over time.

[91] Institutional investors' assets relate only to investments in stocks, bonds and investment funds.
[92] At the end of June 2024.
[93] In cumulative terms, these countries account for 21.1% of total investments of domestic institutional investors.
[94] More information about this indicator and its calculation methodology is available at the following **link**.
[95] More information about this indicator is available at the following **link**.

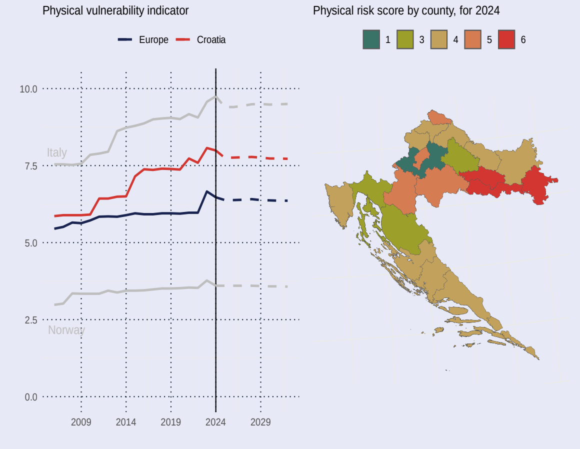
Figure 5 Climate stress has surged in recent years



Source: E3CI

Climate stress has increased significantly over the past two decades, as illustrated by the value of the E3CI index, in particular the rise in extreme temperatures (Figure 5). Croatia is above the EU average in terms of exposure to physical risks, with exposure also fluctuating strongly between individual counties – it is the highest in central and eastern Croatia and lower in the coastal area (Figure 6). Physical climate risks may have a negative impact on the value of investments in real estate, infrastructure and natural resources, especially when investments are concentrated in risk areas. However, the impact of physical risks is often localised and long-term, which means that their consequences are neither manifested uniformly across all geographical areas nor do they pose an immediate threat to the sector's business. Although it is not possible to predict precisely their materialisation and potential adverse effects, which depend on the frequency and intensity of climate events themselves, the risks are still more likely in vulnerable areas. For this reason, it is important to make spatial differentiation of risks and take account of the costs that are significant in the event of risk materialisation in order to be able to plan business adjustments in the long run and reduce vulnerability to climate impacts.

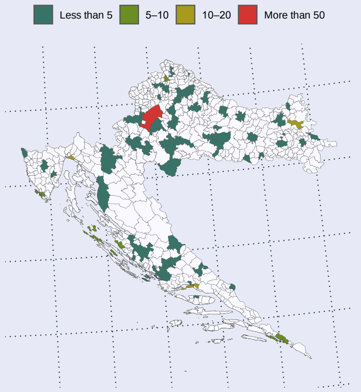
Figure 6 Croatia is more exposed to physical risk than Europe



Source: European Commission (DRMKC Risk Data Hub)

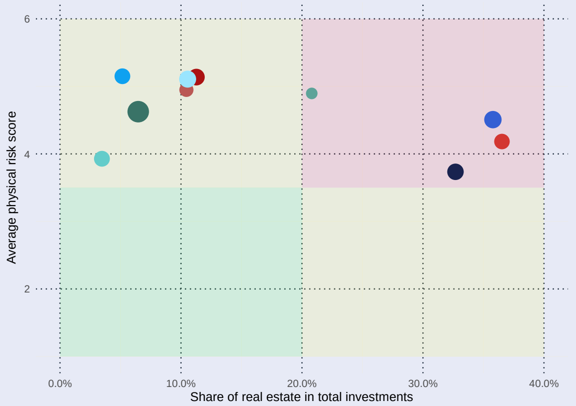
In this context, insurance companies are directly exposed to physical risks due to their real estate investments, which accounted for 12.7% of their investments at the end of 2024. Insurance companies mainly invest in business premises (65.2%), testing centres (10.0%) and garage and parking spaces (5.0%). These investments are geographically concentrated in the four largest cities, which account for almost half of the total number of real properties (48.9%), of which as much as 30.3% are located in the City of Zagreb (Figure 7). A comparison of a real property location with risk assessment by counties shows that almost all companies have a high average score for the physical risk of the portfolio, but with different levels of exposure (Figure 8). Most companies are located in the zone of low exposure, but some companies combine a high real estate exposure with a high average level of risk, which makes them vulnerable to potential climate shocks.

Figure 7 Real estate properties owned by insurance companies are highly concentrated in the area of the City of Zagreb
Number of real estate properties owned by insurance companies, broken down by RH counties



Source: Hanfa

Figure 8 Most insurance companies have low exposure to physical risk
Physical risk exposure of the real estate portfolio

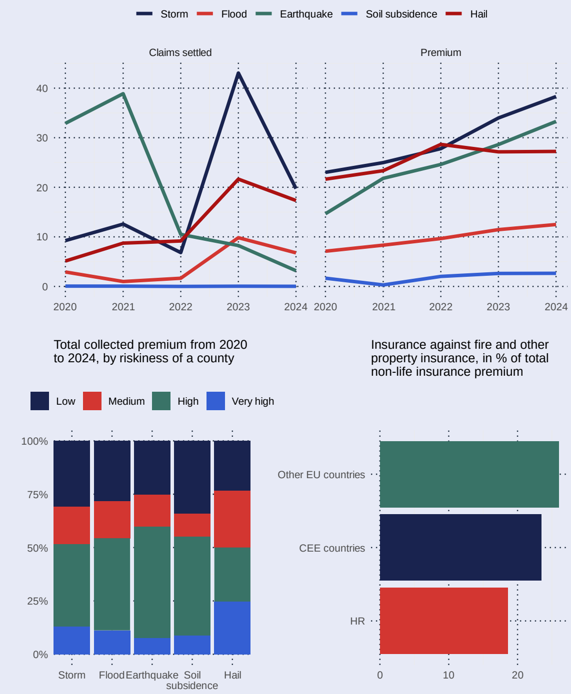


Note: The chart shows the average physical risk score estimated as a weighted average, where the weight is proportionate to the real estate value. The size of the dot is proportionate to the size of total investments of the company observed.
Sources: Hanfa, European Commission (DRMKC Risk Data Hub)

In addition to investments, insurance companies are directly exposed to climate-related disasters due to the very nature of their business, which is based on providing protection against the consequences of adverse events. The materialisation of climate-related extreme events results in increased damage claims, which reduces profits and may change the risk profile of individual insurance lines; in turn, this may raise the service price (premium) and impede the conclusion of new contracts.

Enhanced awareness of climate risks also raises the premium [96] for insurance against natural disasters, which on average grew by 13.8% a year between 2020 and 2024 and by 9.8% in 2024 (Figure 9). In 2024, the most prominent categories of natural disaster risks were earthquakes and storms[97], whose adverse effects on the economy became visible after the earthquake in 2020 and the storm in 2023; they were accompanied by a sharp increase in the damage paid shortly after the materialisation of these risks. Along with the rise in premium, the amount of reported damage is increasing, averaging EUR 53.9m a year since 2020. However, this amount remains relatively low compared to the total reported natural disaster damage, which averaged EUR 298.3m a year between 2010 and 2023.

Figure 9 Insurance against catastrophes is on the rise, but there is significant room for further growth
Amounts of premium collected and claims settled by type of risk, in EUR million



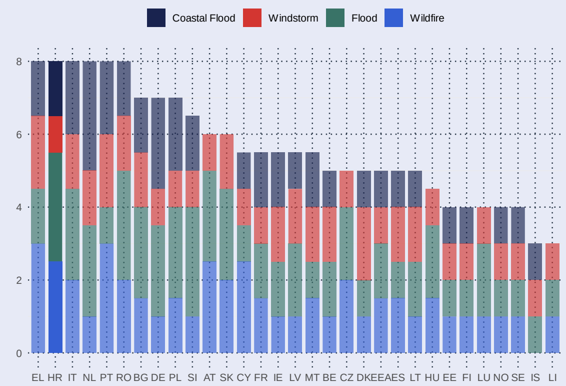
Note: The risk level is defined according to the distribution of physical risk scores by individual counties based on DRMKC data, where the distribution is equally split by quartiles. Share of insurance against fire and other property insurance in total non-life insurance premium refers to data for 2023.
Sources: EIOPA, European Commission (DRMKC), Hanfa

Data by counties of the Republic of Croatia reveal that most natural disaster

[96] Data by the end of 2022 refer to gross premium written and, as of 2023, to collected premium.
[97] The total insurance premium collected for earthquake and storm risks together amounted to 4.5% of total collected non-life insurance premium at the end of 2024.

insurance premiums relate to counties that have been assessed as high-risk (this is definitely also due to the fact that the City of Zagreb is assigned to the high risk category), while in counties with a very high risk of natural disasters, this share is relatively small (excluding hail risk), particularly taking into account the increased risk of natural disasters occurring in these areas. The share of natural disaster insurance is relatively low compared to the European averages, indicating the untapped potential for growth of this insurance line on the domestic market. Closing this gap and effectively managing natural disaster risks could have multiple positive effects on economic resilience and financial system stability through transmission and interconnectedness channels (e.g. fiscal, macroeconomic, investment, etc.). The low prevalence of natural catastrophe insurance in Croatia is further corroborated by EIOPA's protection gap score [98], according to which Croatia is among the countries with the highest insurance protection gap (Figure 11). Historical losses for Croatia show that this gap is the largest for earthquake risk[99], which increased significantly after the 2020 earthquakes. Following earthquakes, floods, fires and heavy rainfall pose the biggest threat, especially in the part of the year when these risks are pronounced. All these risk categories have an insurance penetration rate [100] below 50.0%, and they should be extensively monitored. Despite growing awareness of climate change risks and positive trends in the number of insurance contracts and insured amounts against natural disasters, the lack of insurance protection continues to be a significant vulnerability of the financial system and the economy at large. An inadequate level of coverage against these risks increases macroeconomic risks by putting additional pressure on public finances. It also limits the effectiveness of managing the consequences of disasters at the economy-wide level, which is crucial for its resilience, especially in an environment of mounting climate risks.

Figure 10 Croatia is among the countries with the highest insurance protection gap for natural catastrophes
Insurance protection gap in 2024



Note: Data do not include earthquake scores.
Source: EIOPA

Transition risks

Transition risks, arising from the economy's adjustment to a low-carbon model, currently pose a greater and more immediate threat to the business operations of institutional investors (such as pension and investment funds) than physical climate risks. Depending on the structure and geographical allocation,

[98] The insurance protection gap is the difference between the total economic loss caused by natural catastrophes and the amount of that loss covered by insurance. More information about EIOPA's analysis can be found at the following **link**.

[99] Earthquake risk is not included in traditional climate risks as it is not directly associated with climate change; however it is used in the calculation of the insurance protection gap as an important type of natural catastrophe.

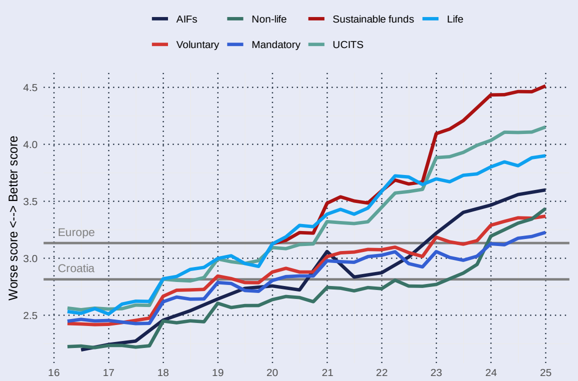
[100] Insurance penetration denotes the share of economic damage covered by insurance.

investments of institutional investors are exposed to possible sharp changes in asset value, higher regulatory costs and reputational risks. For example, the introduction of taxes on greenhouse gas emissions or more demanding technical standards can increase operational costs of carbon-intensive sectors, reducing their profitability and market value. Furthermore, as investors and end-users become increasingly sensitive to environmental criteria, stocks of corporations (and even portfolios of institutional investors) that do not meet sustainability standards may lose some investor confidence, which increases their market and profitability risks.

ESG (environmental, social, governance) scores for issuers reflect how well individual companies or governments manage environmental, social and governance risks and are therefore the key proxies to assess transition risks in the portfolios of pension and investment funds and insurance companies. The analysis uses ESG scores at the level of individual investments in stocks and bonds[101], where the overall score of an institutional investor represents the weighted average of individual exposures whose weight is proportionate to their share in total investments.

The analysis results show that the average ESG score for all the observed sectors improved considerably over the ten-year period under review (Figure 11). This is due to an improvement in ESG scores for individual companies that have upgraded their ESG standards, as well as the investment allocation of domestic funds and insurance companies, which are increasingly turning towards socially responsible issuers. At the end of 2024, the largest progress and highest scores were recorded by UCITS, which is not surprising given that as many as a third of UCITS are compliant with Article 8 of the SFDR. Looking only at sustainable funds that promote environmental and social standards, their ESG scores are much higher than those for the rest of the sector and have shown the highest growth in the past two years, during which their number on the domestic market grew significantly.

Figure 11 Institutional investors increasingly invest in companies with better ESG score
Average ESG scores for the stock and bond portfolio



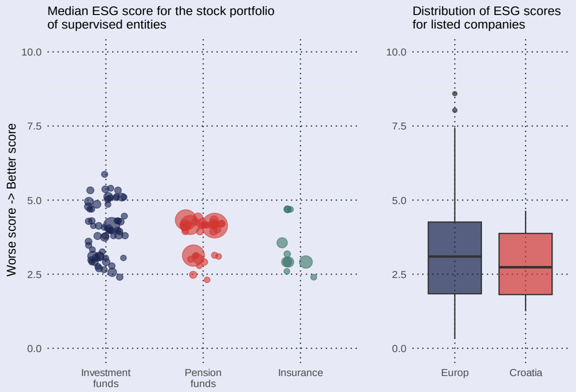
Note: ESG scores range from 0 to 10, where a higher number denotes a better score. The horizontal lines show a median ESG score for 1470 European and 16 Croatian companies listed on stock exchanges.
Sources: Hanfa, Bloomberg, Eurostat

Although the growth of average ESG scores at system level reduces overall exposure to transition risks, some companies have remained highly exposed to such risks. Results at the level of individual funds and insurance companies reveal pronounced heterogeneity in portfolio ESG scores, as the range of scores within each group of institutional investors is very broad, with differences being particularly large in the investment fund segment. Companies with lower ESG scores can be

[101] Due to limited data availability, ESG scores for individual exposures for which data were not available were obtained based on the average score an issuer's activity.

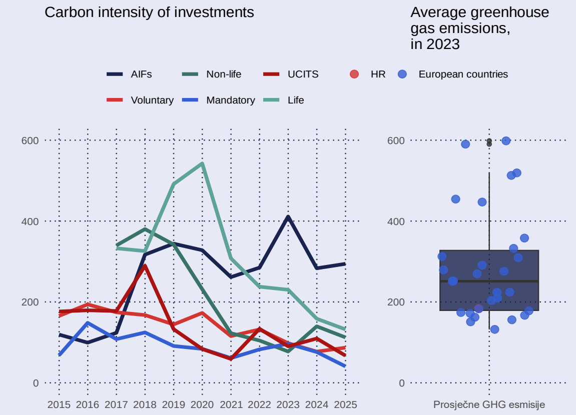
disproportionally affected by regulatory changes or shifts in investor preferences. Such companies may face higher compliance costs and lower investor interest, which may negatively affect their market position and the sector's stability in the long run.

Figure 12 ESG profile of individual companies is very heterogeneous



Note: ESG scores range from 0 to 10, where a higher number denotes a better score. On the left-hand side, the size of the dot is proportionate to the size of the entity The right-hand side shows distributions of ESG scores for 1470 European stocks and 16 Croatian stocks.
Sources: Hanfa, Bloomberg

Figure 13 Carbon intensity of investments decreased slightly



Note: The right-hand side shows the distribution of average GHG emissions by country and activity in kg per capita.
Sources: Hanfa, Eurostat

ESG scores provide a comprehensive view on investment sustainability by integrating various risk aspects and the quality of risk management, but they do not show actual portfolio emissions, which would more directly proxy the exposure of institutional sector investments to transition risks. A higher carbon intensity of investments also implies greater sensitivity to transition risk, which can be materialised, for example, through a sharp increase in emission prices or the introduction of stricter regulations. Therefore, in estimating transition risk, it is also useful to estimate the average GHG greenhouse gases) emissions to which the sector's investments are exposed[102].

Although total GHG emissions of the financial services sector show significant fluctuations on an annual basis, total emissions have been gradually and slightly decreasing over the last decade. This is due to the transition of the European economy to a low-carbon regime, but also a greater focus of the portfolio on greener segments of the economy. Despite significant improvements in ESG scores, the carbon footprint of the portfolio has been reduced only slightly over the past period, suggesting that while improvement in environmental risk management processes is a positive sign, the actual impact on the reduction of the investors' carbon footprint has yet to translate into an actual reduction in emissions. Due to its structure that relies heavily on the services sector, the domestic economy is in the group of European countries with relatively low GHG emissions; also, Croatia stands out from the EU average with its relatively high environmental taxes. As a result, the overall exposure of the domestic economy to transition risks is relatively low. Transition risks remain moderate, especially among investors

[102] The calculation of the GHG indicator combines data on the investment portfolio structure with Eurostat's GHG emissions per capita data, broken down by country and activity, which enables an estimate of the indirect exposure of financial institutions to GHG emissions in terms of geographical and sectoral allocation of investments.

whose portfolios contain a significant share of high carbon footprint assets, making them vulnerable to regulatory changes, changes in investor preferences and market shocks associated with the economy's energy transition.

Conclusion

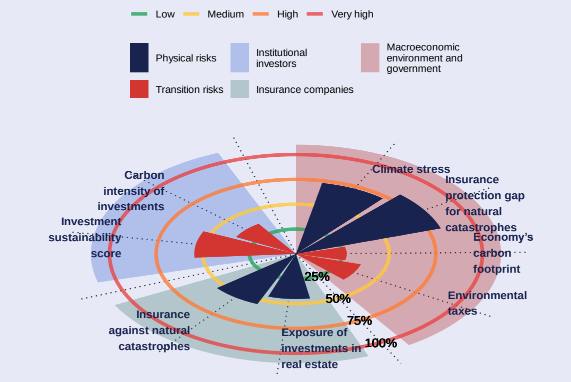
Climate shocks are becoming an increasingly relevant source of systemic risks for the financial sector as they can cause significant losses and potentially impair the smooth functioning of some parts of the system. This is why regulators have started to integrate climate risk indicators more frequently in standard risk monitoring tools. Hanfa has also built on the existing systemic risk matrix, adapting it to best practices and available data.

The analysis shows that domestic institutional investors are moderately exposed to climate risks (Figure 14), with physical risks posing a greater and more immediate threat than transition risks, especially for the business of insurance companies, as well as the entire domestic economy. As climate change is becoming more frequent and devastating, physical risks are likely to increase in the medium and long term, which will particularly affect the business of insurance companies, primarily the growth of their expenses. At the same time, it also represents an opportunity for insurers to expand their offer in the segment of natural catastrophe insurance and partly reduce the currently pronounced insurance gap for such risks. Effective and professional management of these risks can have a positive impact on the overall economy by enhancing financial resilience, boosting investments in a more resilient infrastructure and reducing fiscal pressure in the event of major natural disasters.

On the other hand, exposure to transition risks has been reduced due to growing investments of domestic institutional investors in enterprises whose business operations are based on sound social and sustainable principles. At the end of 2024, exposure to transition risks was moderate; however, despite this overall favourable position, individual companies continue to be highly exposed to these risks. Transition risks can also spread negative effects across the sector more broadly and quickly, as a sudden increase in climate risk premium would affect the entire sector at the same time. This is in contrast to physical risks whose exposure is more determined by the location and characteristics of assets.

Figure 14 Climate risks of the financial system are at a moderate level

Climate risk score for the Croatian financial sector, in %



Source: Hanfa

Regular and comprehensive monitoring of the sector's exposure to climate risks is essential for their timely identification and adjustment of risk management strategies. In view of their changing nature and intensity, Hanfa will continually monitor these risks and build upon the existing indicators depending on the availability of more precise and detailed data.

LIST OF ABBREVIATIONS

AIF – alternative investment fund
APP – Asset Purchase Programme
BiH – Bosnia and Herzegovina
bn – billion
bp – basis point
CBS – Croatian Bureau of Statistics
CEE – Central and Eastern Europe
CES – Croatian Employment Service
CM – Croatian Motorways
CNB – Croatian National Bank
CQS – credit quality step
DRMKC – European Commission Disaster Risk Management Knowledge Centre
DSTI – debt service-to-income
EBITDA – earnings before interest, taxes, depreciation and amortisation
EC – European Commission
ECB – European Central Bank
EEA – European Economic Area
EIOPA – European Insurance and Occupational Pensions Authority
ESG – environmental, social and governance
ETF – exchange-traded fund
EU – European Union
EUR – euro
FED – Federal Reserve System
Fina – Financial Agency
FSB – Financial Stability Board
GDP – gross domestic product
GHG – greenhouse gases
Hanfa – Croatian Financial Services Supervisory Agency
HHI – Herfindahl-Hirschman Index
HICP – harmonised index of consumer prices
HRK – Croatian kuna
HT – Croatian Telecom
HTZ – Croatian Tourist Board
IF – investment fund
LTV – loan-to-value
m – million
MMF – money market fund
OECD – Organisation for Economic Co-operation and Development
PEPP – Pandemic Emergency Purchase Programme
PF – pension fund
PIC – pension insurance company
pp – percentage point
REGOS – Central Registry of Affiliates
S&P – Standard & Poor's
SCR – solvency capital requirement
SFDR – Sustainable Finance Disclosure Regulation
TLTRO – targeted longer-term refinancing operations
tn – trillion
UCITS – undertakings for collective investment in transferable securities
USA – United States
USD – US dollar
ZSE – Zagreb Stock Exchange